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OFFICIAL GUIDE
TO HARVARD
UNIVERSITY

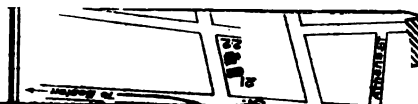


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HARVARD CAMBRIDGE

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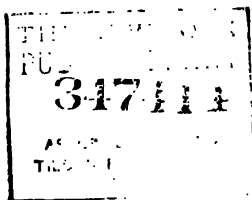
OFFICIAL GUIDE
TO
HARVARD UNIVERSITY

EDITED FOR
THE HARVARD MEMORIAL SOCIETY

BY
WILLIAM GARROTT BROWN
Deputy Keeper of University Records



CAMBRIDGE
Published by the University
1899



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PREFATORY NOTE.

The first edition of this Guide was prepared and published for the meeting of the American Association for the Advancement of Science in Cambridge, in August, 1898. It was edited by Mr. Byron Satterlee Hurlbut, A.M. (H. U. '87), Recording Secretary of the Faculty of Arts and Sciences.

The present edition, enlarged and with additional illustrations, is issued, by permission of the President and Fellows of Harvard College, by the Harvard Memorial Society. The object of this Society, which was founded in 1895, is "to foster among students interest in the historical associations of Harvard and to perpetuate the traditions of her past."

The editor of the Guide and compiler of the larger part of it is Mr. William Garrott Brown, A.M. (H. U. '91), Deputy keeper of the University Records.

The account of the Student Organizations is due mainly to Mr. Harold Williams, Jr., of the Class of '99; that of the Student Publications to Mr. Henry James, 2d, of the same class.

The new illustrations are mainly taken from photographs made for the purpose by Professor de Sumichrast,

Mr. Walter Babcock Swift, of the Class of 1901, President of the Harvard Camera Club, and Mr. Wilfred G. G. Cole (H. U. '97), of the Graduate School.

The Memorial Society is under obligations to many persons for assistance rendered in the preparation of the Guide,—especially to Professor William R. Ware (H. U. '52), to Professor Morris H. Morgan (H. U. '81), and to the officers of the University who have written or revised the accounts of their several departments.

CHARLES ELIOT NORTON,
President of the Harvard Memorial Society.

CAMBRIDGE,
June, 1899

INTRODUCTION.


THE UNIVERSITY.

HARVARD UNIVERSITY is an institution of learning established under the laws of Massachusetts. It is made up of seventeen departments and a large number of museums, laboratories, and other establishments not usually reckoned as separate departments. It occupies a total area of more than 500 acres. Most of the buildings are in Cambridge and Boston. The quick capital of the University in 1898-99 was over ten million dollars; its income sufficed for an average annual expenditure of \$300 *per capita* of students. The value of the lands and buildings devoted to education and the advancement of learning was estimated at nearly five million dollars. The enrollment of students in all departments, including the summer school of 1898, was 4660. The officers of instruction and government numbered 504.

FOUNDATION.

The title of University dates only from the year 1780, when the Massachusetts Constitution of that year referred to "the University at Cambridge." Until 1783, when medical lectures were first given, the institution was properly called Harvard College.

Harvard College was founded in 1636. Oct. 2, 1636 (Old Style) the General Court, as the legislature of



Massachusetts Bay was called, passed the following vote :

“The Court agree to give four Hundred Pounds towards a *School* or *College*, whereof two Hundred Pounds shall be paid the next year, and Two Hundred Pounds when the work is finished, and the next Court to appoint where and what building.”

The governor who approved this vote was Henry Vane, afterwards, as Sir Henry Vane, much distinguished in English history. The next year the court voted that the College should be at Newtowne, and committed the work to twelve eminent men of the colony, among them John Winthrop, who preceded and succeeded Vane as governor, and John Cotton. The same year the name of the town was changed to Cambridge, in honor of the English university where a number of the Colonists had been educated. In 1638 John Harvard, a nonconforming clergyman who had been in the colony about a year, died at Charlestown and left his library of 260 volumes, and half his fortune, to the infant college. In his honor it was called Harvard College. In the year 1640 the first President, Henry Dunster, entered upon his duties. Two years later the first class, numbering nine, was graduated.

CONSTITUTION.

The institution was thus founded, placed, and named. Its constitution has been affected by various changes, but two acts of the colonial legislature, each establishing a governing board, have determined the general character of its government throughout its subsequent history.

The first of these was passed in 1642, and established the Board of Overseers; the second in 1650, and established a board officially styled the President and Fellows of Harvard College, but always more commonly known as "The Corporation." These two boards now govern the entire University.

The Board of Overseers as first constituted was made up of the Governor, the Deputy Governor, and the Magistrates of the Colony, "together with the teaching elders of the six next adjoining towns, — viz., Cambridge, Watertown, Charlestown, Boston, Roxbury, and Dorchester," and the President of the College. It necessarily included all the most prominent and powerful men of the puritan commonwealth, and the College government was therefore very like the government of Massachusetts Bay. But this body was soon found too large for the immediate direction of the school, and in 1650 the General Court drew up an instrument of great interest, now hanging in the Librarian's room in Gore Hall. This instrument is the Charter of Harvard College. It is "the veritable source of collegiate authority" to-day, and the corporation it established is the oldest in the country.

The charter committed the property and the government of the College to seven persons, a President, a Treasurer, and five Fellows, who were empowered to fill vacancies in their number. In them the property of the institution was vested. They were to elect its teaching and other officers, and to make its laws and orders, subject only to confirmation by the Overseers. The records of the President and Fellows, preserved in the archives of the University, are fairly continuous and complete.

They reveal with what patience and wisdom, for two centuries and a half, the property of the institution has been guarded, its activities expanded, and its high aims adhered to. The responsibility of the Corporation to the Overseers was somewhat lessened in 1657 by an appendix to the Charter, to the effect that the acts of the smaller body should always have "immediate force," although they should still be "alterable" by the Overseers.

In the year 1684 the colonial charter of Massachusetts Bay was revoked, and it was generally held at the time that the College charter was vacated by this act of the crown. In consequence, the government of the College was for years unsettled. In 1691 Massachusetts Bay was given a province charter, and the next year the General Court passed a new College charter, but it was disallowed by the home government because it did not give the King the right to appoint visitors. No less than three other charters passed the General Court, the last in 1700, but none of them ever was confirmed in England. Finally, in 1707, the court simply voted that the original charter of 1650 was still in force, and on that theory the College is still governed, and "the seven" are still in power.

But the other governing body, the Board of Overseers, is very different now from the original board. In early times the difficulty in getting the members together was serious, and led first to the establishment of the Corporation and then to a provision of the act of 1657, to the effect that, if notice of a meeting should be given to members dwelling in the "six next adjoining towns," votes passed at the meeting should be valid, whether

those dwelling in remoter towns received notices or not. The constitution of the State of Massachusetts, adopted in 1780, changed the Overseers by substituting the Governor, Lieutenant Governor, Council, and Senate of the State for the Governor, Deputy-Governor, and Council of the Colony; and defined the "teaching elders" of the "six towns" as "ministers of the Congregational Churches" in those towns

The next important change came in the year 1810. The Council and Senate were eliminated from the Board, the official membership being confined to the Governor, the Lieutenant Governor, and the presiding officers of the two houses of the Legislature. The body of the membership was to consist of fifteen Congregational clergymen and fifteen laymen, to be elected by the Board itself. This law was repealed two years later, but reenacted in 1814. Twenty years later the court voted that the clerical members might be chosen from any denomination, the change to take effect whenever the Corporation and Overseers should agree to accept it. This they did in 1843, and the institution was thus freed from the control of a particular denomination.

An act of 1851 struck out entirely the requirement that a portion of the membership should be chosen from the clergy; made the Governor, the Lieutenant Governor, the presiding officers of the two houses, the Secretary of the Board of Education, and the President and the Treasurer of the College, members *ex officio*; and entrusted the election of the remaining members to the two houses in joint convention assembled, a certain number to be chosen every year and to go out of office at the end of a term of years.

In 1865 the Board was divorced from the State government by an act which, with two slight amendments, is still in force. Under it the bachelors of arts of five years' standing elect every commencement day five members of the Board who hold office for six years, the President and the Treasurer for the time being remaining members *ex officio*. Candidates for membership need not even reside in Massachusetts. The election is held in Massachusetts Hall, and is conducted according to the "Australian" system. Thus, after many changes, the government of the University is no longer connected with either church or state, except that the General Court of Massachusetts necessarily retains the power to alter it, — a power, however, which the court does not seek to exercise without the consent of the University itself. It is therefore true that neither state nor church exercises any control over Harvard, though it was founded by the state and long dominated by the church.

THE DEPARTMENTS.


Turning now to the immediate government of the University, its departments may be considered as divided into two general classes, according as they chiefly promote the one or the other of the two general objects for which the whole exists. These two objects are instruction and the advancement of learning. Ten of the departments are schools, and their main work is teaching. Seven departments, and numerous minor establishments, cannot be called schools; they serve to increase and preserve knowledge, rather than to instruct and train young men, though they are all accessory to the work of teaching.

FACULTY OF ARTS AND SCIENCES.

The administration of *Harvard College* and of two other departments, *The Lawrence Scientific School* and *The Graduate School*, is committed to a body called the Faculty of Arts and Sciences, whose meetings are held in University Hall, the central building in the College Yard. This faculty numbers (in 1898-99) 102. The schools under its control, offering more than five hundred courses of instruction in forty-nine general subjects to more than three thousand students (3240 in 1898-99), use in common most of the lecture halls, laboratories, museums, libraries, etc., in and about the College Yard in Cambridge. The College, the largest of all the departments, has nearly two thousand students (1,851 in 1898-99).

Six degrees are awarded on recommendation of the Faculty of Arts and Sciences. The courses offered in the College lead, ordinarily after a residence of four years, to the degree of Bachelor of Arts. Similarly, the courses in the Scientific School lead to the degree of Bachelor of Science. To properly qualified students in the Graduate School who fulfill the requirements of work and residence, the degrees of Master of Science, Master of Arts, Doctor of Science, and Doctor of Philosophy are offered.

The Summer School is directed by a committee of the Faculty of Arts and Sciences, and most of the courses are given in Cambridge; but the Medical School Faculty has control of the courses in medicine, which are given in Boston. The total enrollment of Summer School students in 1898 was 759. Women are admitted to all the summer courses except those in medicine.



THE PROFESSIONAL SCHOOLS.

The six professional schools are administered by faculties separate from the Faculty of Arts and Sciences. Only two professional schools, those of Divinity and Law, are in Cambridge.

The Divinity School has its buildings on Divinity Avenue. It offers about forty courses of instruction, covering all the subjects studied in denominational schools of divinity, but is not controlled by any denomination. The ordinary term of residence leading to the degree of Bachelor of Divinity is three years. The students are given many privileges of study in other departments of the University.

The Law School occupies Austin Hall, on Holmes field, Cambridge, near the site of the house formerly occupied by the Holmes family, to whose estate the land formerly belonged. The term of residence ordinarily necessary to obtain the degree of Bachelor of Laws is three years. About thirty separate courses of instruction are offered. The enrollment of students in 1898-99 was 551.

The Medical School occupies a building at the corner of Boylston and Exeter Streets, Boston, adjacent to the Boston Public Library. The term of residence for the degree of Doctor of Medicine is four years. The courses offered, including the advanced courses offered to graduates, cover about thirty principal subjects. The enrollment of students in 1898-99, exclusive of summer students, was 560.

The Dental School occupies a building on North Grove Street, Boston. The term of residence leading to the

degree of Doctor of Dental Medicine is three years. The courses of instruction, some of which are given in the Medical School, cover about fifteen principal subjects. The enrollment in 1898-99 was 139.

The School of Veterinary Medicine is situated at and near the corner of Village and Lucas Streets, Boston. The term of residence leading to the degree of Doctor of Veterinary Medicine is three years. The courses of instruction cover fifteen subjects. The enrollment in 1898-99 was 25.

The Bussey Institution, a school of agriculture and horticulture, is situated in Jamaica Plain, a suburb of Boston. After a year's residence a student may, by passing the required examinations, obtain the degree of Bachelor of Agricultural Science. The enrollment of students in 1898-99 was 23. Systematic instruction is given in agriculture, in useful and ornamental gardening, and in chemistry and natural history as applied to these arts.

OTHER DEPARTMENTS.

The remaining departments of the University do not offer regular courses of instruction leading to degrees; but they are all intimately associated with the work of teaching and are of incalculable value to the various schools which have been enumerated.

The University Library is justly described as the very centre of the working life of the whole University. Its principal strength is in Gore Hall, the College Library, but the Librarian and the Library Council control more than thirty department, laboratory, and class-room libraries in Cambridge and Boston.

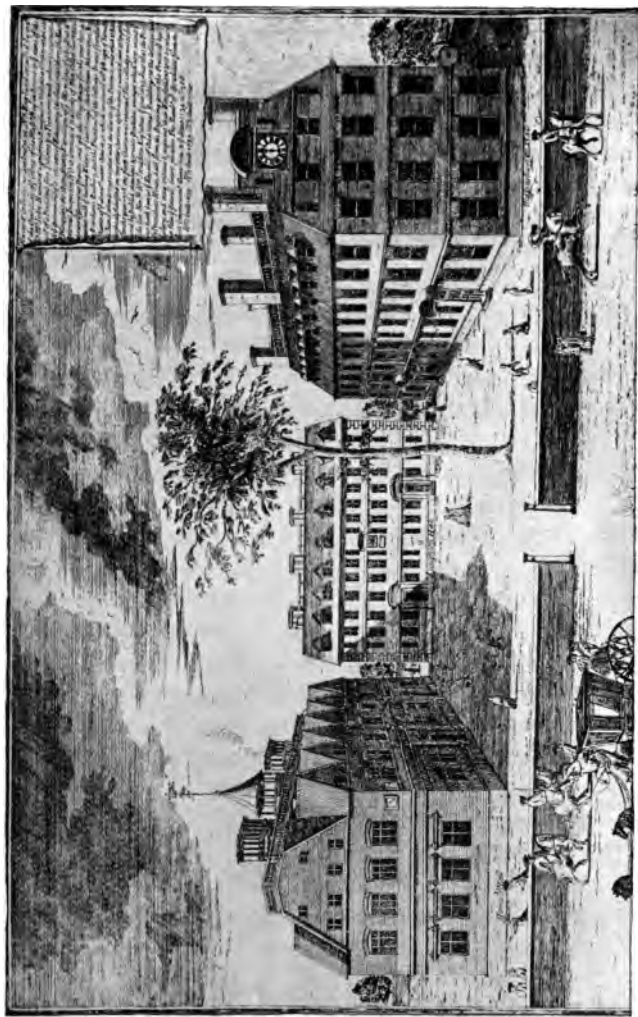
The University Museum, including *The Peabody Museum of American Archaeology and Ethnology*, is of daily use to students in the various scientific courses, many of which could not be given adequately without its collections. *The Botanic Garden* and *Gray Herbarium* are also in Cambridge. *The Astronomical Observatory* has its principal station in Cambridge, where the bulk of its work is done; but it maintains another station at Arequipa, Peru, and the Blue Hill Meteorological Observatory coöperates with it. *The Arnold Arboretum*, with its Herbarium and Museum, is in Jamaica Plain, a suburb of Boston.

MINOR ESTABLISHMENTS.

The museums, laboratories, etc., not reckoned as separate departments, though some of them have separate buildings, need not be enumerated here. They are all described in the pages which follow.

THE NEW YORK
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ASTOR, LENOX AND
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"A PROSPECT OF THE COLLEDGES IN CAMBRIDGE IN NEW ENGLAND"

(From an engraving made by W. Price in 1730)

THE COLLEGE YARD

AN HISTORICAL SKETCH.

There is nothing better to say to a stranger entering the Yard of Harvard College than what Lowell said in his oration on the two hundred and fiftieth anniversary of the founding of the College. Having first praised the architectural beauties of Oxford and Cambridge, and acknowledged the fitness of their quadrangles and cloisters to stand before our eyes for all the past glories of English scholarship and all the venerable associations of those aged universities, he frankly confessed of the New England college that its past is "well-nigh desolate of æsthetic stimulus. We have none," he said, "or next to none, of these coigns of vantage for the tendrils of memory or affection. Not one of our older buildings is venerable, or will ever become so. Time refuses to console them. They look as if they meant business, and nothing more." The interest of these buildings is very great; but it is entirely historical and practical, not artistic. For beauty, one must look to the grass and to the noble elms; for inspiration, to the story of the hard beginnings of the College and its fidelity to brave ideals, and to the lives and characters of the men who have studied and taught here, and from here have passed into the service of their country, and of just causes, and of mankind.

Nevertheless, it seems quite clear that the founders of Harvard, poor men though they were, and in a wilderness,

had in mind the English universities, and Cambridge especially, when they set about their task. Many of them were Cambridge men; and the first building, rude and ill-built as it was, had much that was suggestive of a "Hall" in an English university. We do not certainly know where it stood, though it is thought to have stood near the site of Grays Hall, but the early records show that it was a home as well as a place of study. There were in it chambers, "studies," a kitchen, and a buttery; and on top there was a "turret." We even know the cost of the various items purchased in fitting up the several "studies." Here, for example, is the account, taken from the first College Book, for the study occupied by George Downing of the Class of 1642. In the entry he is called "Sir" Downing because he was a graduate when the account was made; later he went into the English diplomatic service, was knighted, and won for himself an eminence not very admirable, for he was reputed a miser and a turn-coat.

SIR DOWNINGS STUDY.

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There is no picture of this first "college," but the high ideal of the builders and their scanty means resulted in a structure of which one writer tells us that it was "thought by some to be too gorgeous for a wilderness, and yet too mean in others' apprehension for a college." It was soon

in need of repairs and proved inadequate to the wants even of the scanty College population of those days. Within ten years of its completion the "governors" of the institution had begun to "purchase the neighbors' houses" to accommodate students. One of the houses bought for this purpose was Mr. Edward Goffe's, and it came to be known as Goffe's College. The term "college" was at first applied to each of the separate buildings, and this usage survived for many years. In 1653-54 the commissioners of the Association for the Propagation of the Gospel among the Indians were persuaded to erect a small brick building for Indian youth, and this was known as the Indian College. But the experiment was not successful, and only one Indian ever received a Harvard degree. The Indian College was poorly built, and was a ruin before the end of the century. So was the "Old College," which was succeeded in 1672 by the first Harvard Hall, or Harvard "College;" this seems to have been well built, for it lasted nearly a century.

We have a good picture of this first Harvard Hall, and we know that it stood in the Yard, just to the left of the main entrance. It stood alone until the year 1700, when a new "college," called Stoughton in honor of Lieutenant Governor William Stoughton, who gave it, was built in front of the main entrance, making a right angle with the eastern end of Harvard. A few years later, under the guidance of President John Leverett, the institution entered on a new and more prosperous period in its career, and in the year 1718 the General Court of Massachusetts made a grant for still another "college," the oldest of all the buildings now standing.

This is Massachusetts Hall, on the right as one enters the Yard through the Johnston Gate, and facing the site of the first Harvard. It made, with Harvard and Stoughton, a very small quadrangle, and of these three buildings we have an engraving, made near the middle of the eighteenth century. Behind Stoughton, as it appears in that engraving, there was an old field, crossed by a brook; probably no one dreamed of a time when it would be covered with other College buildings. In 1720, when Massachusetts was finished, the graduating class numbered thirty-seven, and it was many years before any great increase came. Cambridge was but a village, lying chiefly between the College and the river. Boston itself was but a small town, though thriving, and no bridge connected the two places. One source of the income of the College was the tolls of the Charlestown Ferry, which Cambridge people crossed when they went to Boston, unless they went by "Roxbury Neck." The teaching in the College was chiefly the work of tutors. The first professorship, the Hollis Professorship of Divinity, was established the year after Massachusetts was built.

It is pleasant to know that the outside of Massachusetts has not been changed at all. Every class since 1720 has seen the same square walls of red brick, the small windows, the narrow doorways. But the inside has been much altered. At first it was given over entirely to small chambers and still smaller "studies." After the fight at Lexington, in the Revolutionary War, the chambers were for a time occupied by American troops, the students being sent away to Concord. Early in the present century, in President Kirkland's time, a part of the lower floor was devoted to lectures and society meetings, and

in 1870 the remaining chambers and studies made way for lecture halls and examination rooms. Several of the larger lecture courses, chiefly in history, are now given here. While the building was used as a dormitory many of the most eminent sons of Harvard lived in it.

During the eighteenth century no progress whatever was made towards the development of the quadrangle into which one now looks on entering the Johnston Gate. Six years after the completion of Massachusetts, the Province legislature appropriated money to build the President a house; but the site chosen seems to show that it was not meant to bear any special relation to the buildings already standing. Wadsworth House, as it is now called in honor of the first President who occupied it, was the home of every one of the Presidents who succeeded him until President Edward Everett went out of office. It shares with the Craigie House the distinction of having sheltered Washington, but it was found inadequate for a headquarters. In recent years it has been put to many different uses. It has been altered from time to time, but except for the paint the outside is still suggestive of the sober days and sober lives with which we naturally associate it in our thought.


When the College was a century old, and had trained hundreds of clergymen, it was still without a place of worship of its own, although it had an interest in the parish meeting house which stood near the site of Dane Hall. The wife and daughter of Samuel Holden, M.P., who himself had been a liberal benefactor of Harvard, gave £400 to build a chapel, and a site immediately in the rear of the first Harvard was chosen. Holden Chapel was the first of the buildings to take its name

from an English benefactor, and it is rather curious that the others so named are very close to it. About twenty years later, there being need of a new dormitory, the legislature voted the necessary sums, a site to the northeast of Harvard was chosen, and the building was named for Thomas Hollis, an English merchant, who died in 1731 and whose benefactions were the most remarkable feature in the cherishing of the College up to that time. He was a Baptist, and yet he gave sums which in those days were considered vast to help a school which had dismissed its first President because he objected to the baptism of infants. The Hollis Professorship of Divinity, established more than a hundred and fifty years ago, was never until the present time filled by a man in sympathy with the creed of its founder.

Hollis Hall was scarcely built when the worst disaster the College ever met again reduced the number of buildings to five: Harvard Hall was burned in 1764, and it was only with the greatest difficulty that Hollis, Stoughton, and Massachusetts were saved from the flames. The library and the apparatus were lost, but the Province, feeling an especial responsibility because the legislature was holding its sessions in the hall at the time, promptly voted the money to replace it, and a liberal stream of private benefactions poured into the College treasury, so that there was soon a new library and new apparatus. The new Harvard was devoted to many uses. It had a kitchen and buttery, a dining room, a chapel, a library, several lecture halls, and the belfry. To tell how, from time to time, it lost its various uses, until in our day it has only lecture rooms and departmental libraries, would be to trace the expansion of the Colonial College into the American University.

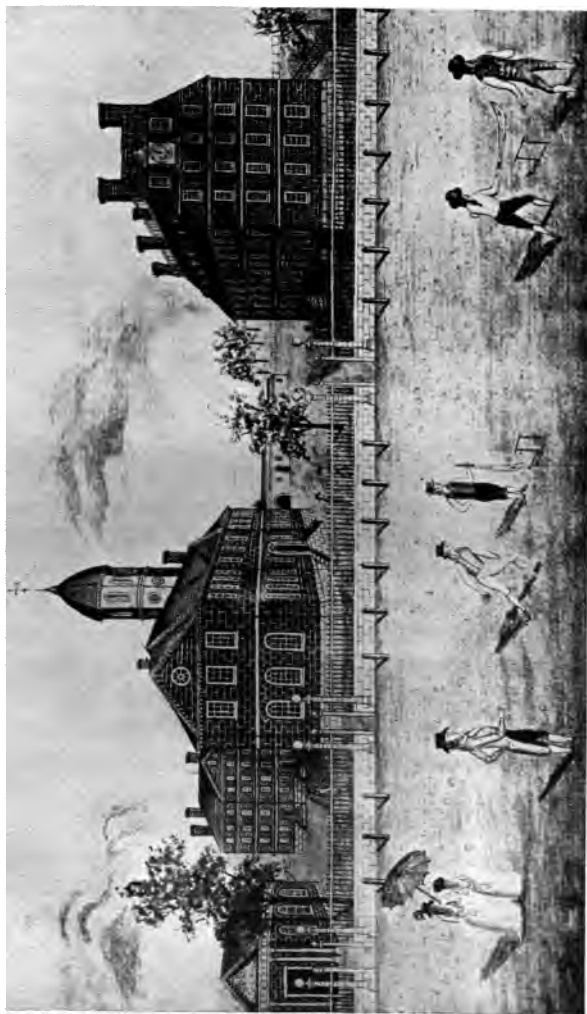
The building of Harvard Hall was, in fact, the completion of the Colonial College. The five halls standing in 1766, with the old President's House, stood unchanged and without increase when the Revolution came. From them the students migrated to Concord while the British troops held Boston, and into them American troops entered while Washington commanded in Cambridge. We know that the College was very patriotic. Indeed, it can claim no small share in the Revolution. True, some of its officers and graduates had written verses in Latin, Greek, and English and printed them in a volume called "*Pietas et Gratulatio Collegii Cantabrigiensis apud Novanglos*" and sent them to George III on his accession to the throne, following in this the example of the English Universities; and the classes were still graded according to the social position of the students. But, for all that, Harvard was thoroughly American. It had drifted entirely away from the Cambridge traditions of its founders. It had bred Quincy and Otis and two Adamses; President Langdon was ready to fight or to pray for independence, and John Hancock had been chosen Treasurer because he was a patriot, and not because he was a good man for the place—he was, in fact, the worst treasurer the College ever had. When the war ended, the College, with little or no change in its constitution or character, entered easily on its course as an American institution, thoroughly in sympathy with the ideas for which the Republic stands and commended to popular favor by the eminence of its graduates in the public service.

As if to open the way into a larger future, the first Stoughton Hall, being in a ruinous state, was taken down in 1780, the year in which Harvard took the name "Uni-



versity." Its destruction certainly opened the way into the present Yard. It was not rebuilt until 1804, and then on a new site, north of Hollis, and it stood a year or more under the name New Hall; but in the end the old name was given it. The money to build it came from a lottery, and this method of raising funds, approved by the public opinion of those days, was again employed in 1812, when Holworthy was built. This was the last hall to be named for an English benefactor. The man so honored was Sir Matthew Holworthy, who died in 1678 and left the College £1,000. Holworthy Hall is the youngest of the buildings commonly called old, and its site is important because with Stoughton it formed the first corner in the main quadrangle of the Yard. From that time there was sure to be a quadrangle very much larger than the old one formed by Massachusetts, Harvard, and the first Stoughton, or the other enclosed by Harvard, Holden, and Hollis. In November, 1812, the President and Fellows appointed a committee "to devise the form and site of a building in the College grounds to include a Commons Hall;" and it was voted that in choosing a site the committee "have reference to other buildings which may in future be erected." The committee chose a site directly opposite the main entrance; Charles Bulfinch was the architect, and the Hall when completed was called University.

University was well named, whether we consider the uses to which it has been put or the time at which it was built. President Kirkland was in office, and his administration is usually taken as marking the entrance of Harvard into the life of a true university; and of this university life the new hall has been the centre. For

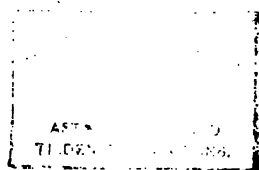


Houdon

Dorgermont

“VIEW OF THE COLLEGES AT CAMBRIDGE, MASSACHUSETTS”

1795



years the religious exercises, the public exhibitions, and the students' commons made the building important to all members of the University community; and the administrative machinery has always been operated from this point. In President Kirkland's day five new professorships were established, and the departments of Divinity, Law, and Medicine were organized in university fashion. The Massachusetts Medical College in Boston and Divinity Hall in Cambridge gave evidence that the Yard was not to be the limit of physical expansion. They were forerunners of so many buildings for scientific and other purposes, built outside the Yard, that it was soon only a question of time when the Yard itself would become of less practical importance than the departments outside it. It was the beginning of a process which is still going on, and as a result of which we see Harvard admission examinations offered in Tokio and a Harvard Observatory on top of a Peruvian mountain.

But the Yard was not yet finished. President Quincy, who succeeded Kirkland, saw two very important changes in it. On the site of the old meeting house, south of Massachusetts, Dane Hall was built in 1832, through the liberality of Nathan Dane, and for fifty years it was the University School of Law; here Greenleaf and Story and Parsons lectured. It did not, however, look much like the present Dane, or stand in the same spot, but farther north. In 1845 important changes were made in the building. Until it was moved in 1871 to make room for Matthews Hall, it helped to define the main quadrangle. But Gore Hall, begun in 1837, does not belong to the main quadrangle at all. It was, in fact, the beginning of a second quadrangle; but evidently

not by design. The original Gore Hall was nothing more than the western wing of the present building, but it was then sufficient in size to harbor the largest library in the country more commodiously than, with its several additions and re-arrangements, it now harbors the third largest. Excepting University, it was the only stone building in the Yard, and it shares with University the distinction of touching the interests of more men, inside and outside the University, than any other of the Harvard buildings.

The main quadrangle as we now see it was not completely outlined until the building of Grays Hall in 1863. Meantime, however, in 1857-58, Boylston Hall and Appleton Chapel had risen on opposite sides of Gore, Appleton serving to define the northern limit of the new quadrangle. Both had their origin in the benefactions of wealthy Bostonians, from whom they took their respective names. Appleton Chapel supplanted University Hall as the centre of the religious life of the University, as University Hall had supplanted Holden and Harvard. Boylston, the first of the buildings distinctly dedicated to the physical sciences, may be regarded as a humble beginning of an extremely potent development in the later history of the University. Grays, an unpretentious dormitory, taking its name from a family eminent in the law and eminent in generosity to the University, was the last building erected in the Yard before the present era of unprecedented expansion began with the inauguration of President Eliot in 1869.

In the Yard three new dormitories, with Sever Hall, the Fogg Museum of Art, and Phillips Brooks House, indicate the eagerness with which the new vigor presses

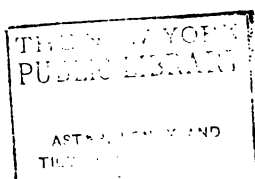


Fisher, Pinxt.

"SOUTH VIEW OF THE SEVERAL HALLS OF HARVARD COLLEGE"

1823

Annin & Smith, Sc.



into the spaces still left for the builder. They may serve also to indicate the chief source of energy; for they are all examples of a munificence unexampled until our own times in the history of benefactions to American universities. They are, indeed, cheering proofs that in our Republic generous and wealthy citizens are willing to play the part of those royal and noble patrons to whom, in the old world, learning is indebted for its stateliest temples. The three dormitories, Weld, Matthews, and Thayer, have completely filled out the line of the main quadrangle. Sever fixes the eastern limit of the second quadrangle.

It has been said that University Hall is still the centre of University life. That is true enough; but in another sense Memorial Hall, though it stands outside the yard, is also its centre. The aim of the University has always been to train men for high services, and Memorial commemorates the military service the sons of the University rendered in the Civil War. First conceived in the enthusiasm with which Harvard welcomed those of her graduates who came back alive from the war, it was built at last by the contributions of hundreds of alumni and friends who wished to put into enduring form their reverence for those who never returned. Its tower is the first object to catch the eye of one who approaches the University; its lesson outlasts all others in the minds of those who go away. Without it, and that for which it stands, Harvard might still be a great University, but not what it aims to be — an adornment and a support to the Republic.

DESCRIPTION

OF THE

GROUNDS AND BUILDINGS.

The Johnston Gate, at the main entrance to the Yard, was built in 1890, and was the gift of Samuel Johnston, of Chicago. It was designed by Charles Follen McKim. The ironwork was given by Mrs. George von L. Meyer, of Boston. On a tablet in the right wall is the following inscription:

AFTER GOD HAD CARRIED VS SAFE TO NEW ENGLAND :
AND WEE HAD BVILDED OVR HOVSSES
PROVIDED NECESSARIES FOR OVR LIVELI HOOD
BEARD CONVENIENT PLACES FOR GODS WORSHIP
AND SETTLED THE CIVILL GOVERNMENT
ONE OF THE NEXT THINGS WE LONGED FOR
AND LOOKED AFTER WAS TO ADVANCE LEARNING .
AND PERPETVATE IT TO POSTERITY
DREADING TO LEAVE AN ILLITERATE MINISTRY
TO THE CHVRCHES WHEN OVR PRESENT MINISTERS
SHALL LIE IN THE DVST
NEW ENGLANDS FIRST FRUITS



THE JOHNSTON GATE



THE MEYER GATE

Page

ASTOR
TILDEN FOUNDATION

A tablet in the left wall bears this inscription :

BY THE GENERAL COURT OF MASSACHUSETTS BAY
 28 OCTOBER 1636, AGREED TO GIVE 400^l
 TOWARDS A SCHOALE OR COLLEDGE WHEREOF 200^l
 TO BEE PAID THE NEXT YEARE & 200^l
 WHEN THE WORK IS FINISHED & THE NEXT COVRT
 TO APPOINT WHEARE & W^T BVILDING
 15 NOVEMBER 1637 THE COLLEDG IS ORDERED
 TO BEE AT NEWETOWNE
 2 MAY 1638 IT IS ORDERED THAT NEWETOWNE
 SHALL HENCEFORWARD BE CALLED CAMBRIGE
 12 MARCH 1638-9 IT IS ORDERED THAT THE COLLEDGE
 AGREED VPON FORMERLY TO BEE BVILT AT CAMBRIDG
 SHALBEE CALLED HARVARD COLLEDGE

The Meyer Gate, at the Cambridge Street entrance to the Yard, opposite the delta on which stands Memorial Hall, was the gift of George von Lengerke Meyer, of Boston, of the Class of 1879. Designed by Charles Follen McKim, it was erected in 1891.

University Hall, built in 1815, of white Chelmsford granite, after a design by Bulfinch, cost \$65,000, of which \$53,000 was given by the State of Massachusetts. Soon after its completion there was added to the western façade a portico, which was, however, removed in 1842. For a while University contained the library and the philosophical apparatus, and the room for ordinary chapel assembly. There were galleries, pews for members of the Faculty and their families, and a pulpit in the middle of the east side. The Hall became the centre of the University life; for

some time the students' commons were here; public dinners and Commencement and Exhibition Performances were given here as late as 1867; and here were entertained Presidents Monroe, Jackson, Van Buren, and the Marquis de Lafayette. Of late years the hall has undergone much alteration. In 1849 the lower floor, and in 1867 the chapel, were cut up into recitation rooms; and other changes have given the building over to lectures and administrative work. In 1896, however, the original chapel was restored, and it is now used for the meetings of the Faculty of Arts and Sciences. Hanging on its walls are portraits of former officers and of benefactors of the University. Near this site, but somewhat to the westward, stood the first Stoughton Hall, built in 1700; and here, also, was the spring at which Professor Wigglesworth used to water his cow.

Massachusetts Hall was built from a grant of £3,500 made in 1718 by the Province of Massachusetts. It was finished in 1720, and was at first used as a dormitory. After the Battle of Lexington it was used as a barracks by the Continental soldiers, and somewhat damaged. About one hundred years after the erection of the building the lower part was given over to rooms for lectures and societies; and in 1870 the whole building was devoted to the public uses of the University. In the lower hall the Phi Beta Kappa dinners are given; and here, on Commencement morning, the President and the other officers of the University welcome the Governor of the Commonwealth, his staff, and the invited guests of the day.



UNIVERSITY HALL

THE NEW YORK
PUBLIC LIBRARY

ASTOR, LENOX AND
TILDEN FOUNDATIONS.

Harvard Hall, built in 1765-66 by the Province of Massachusetts, at a cost of \$23,000, replaced the first Harvard Hall, which was destroyed by fire in 1764. As the building was occupied at the time by the Province Legislature, which had been driven from Boston by the small pox, the Province of Massachusetts Bay considered itself responsible for the loss, and therefore built the present Harvard Hall. This at first contained the chapel, the library, the philosophical apparatus, and the dining hall of the College. Like Massachusetts Hall, it was used and somewhat damaged by the troops in Revolutionary times. Here Washington was received in 1789, and Monroe in 1817. Except Holden Chapel, it is the only one of the early College buildings which has never been used as a dormitory. It is now used for lectures and recitations, and contains the libraries of the Departments of the Classics, History and Government, and Economics.

The Library of the Department of the Classics (Room 3) was established for the use of students in that Department. It contains dictionaries, and general treatises on grammar, history, antiquities, literature, philosophy, etc., together with all the most recent and many of the more valuable older editions of Greek and Latin authors; in all about 3000 volumes. The books recommended by the several instructors of the Department for collateral reading in their courses are all included. On the walls hang likenesses of former professors in the Department from the beginning of the nineteenth century.

The Principal Lecture Room of the Classical Department (Room 1) is equipped with an excellent (electric light) stereopticon and about 3000 slides illustrating

Greek and Roman life, art, archaeology, etc., etc. The Department has also in its various lecture rooms about 2000 mounted photographs and a considerable collection of casts of Greek and Roman sculpture. A set of facsimiles of ancient coins is at present deposited in the Fogg Museum of Art.

The History Reading Room (Room 2) contains four department libraries.

The Library of the Department of History and Government is made up of books on English and continental history and government — nearly 2000 volumes — and half as many on American history. The collection on American history is frequently called the *Evans Library*.

The Library of the Economics Department is made up of a collection on Political Economy and one on Social Questions — in all about 2000 volumes.

These four collections are especially designed to provide copies of the books most commonly used in connection with the courses of study in the subjects to which they relate.

Hollis Hall, built by the Province of Massachusetts Bay in 1763, at a cost of £3,000, and named for the first Thomas Hollis, contains 32 rooms. Hollis, who established two chairs, the Hollis Professorship of Divinity and the Hollis Professorship of Mathematics and Natural Philosophy, was the greatest benefactor of the University during the first century of its existence; and his example was followed by other members of his family for several generations. The building was from the first used as a dormitory, but some of its rooms have been occupied by societies, such as the Harvard Washington Corps, the



MASSACHUSETTS HALL



HARVARD HALL.



Engine Company, and the Pi Eta. Like the other older buildings, it was given over to the Revolutionary soldiers for a time, and was somewhat damaged.

Stoughton Hall, built in 1805 at a cost of about \$24,000, of which three-fourths was secured by a public lottery authorized by the State, was named for Lieutenant Governor William Stoughton, who, as Chief Justice of Massachusetts Bay, presided at the Witchcraft Trials. It was he who gave the funds for the first Stoughton Hall, built in 1700. The present Stoughton, at first called New Hall, was used from the beginning as a dormitory. The Hasty Pudding Club formerly met and had reading rooms here. Like Hollis Hall, the building has 32 rooms.

Phillips Brooks House, a memorial to Phillips Brooks, of the Class of 1855, Preacher to the University, Overseer, and Protestant Episcopal Bishop of Massachusetts, was designed by Alexander Wadsworth Longfellow, of the Class of 1876. Numerous small subscriptions contributed to the fund raised for the memorial. It was begun in March, 1898, and is to cost, when finished, \$50,000. Here the religious and charitable work of the University finds its centre. Besides the space devoted to the volunteer charity work of the students, the building contains a large general meeting room, a room with facilities for giving dinners, a committee room, two society rooms, a library, memorials to Phillips Brooks and others, and an assembly hall occupying the whole of the top story.

Holden Chapel.—Madam Holden, wife of Samuel Holden, M.P., Governor of the Bank of England,—who

was regarded as the head of the English Dissenters, — together with her daughters, gave to the College £400. With this money the first building designed solely for religious uses by the University, Holden Chapel, was built in 1744. On its west front the Holden Arms are carved in wood. When the present Harvard Hall was built, Holden ceased to be used for religious services. For a while it contained four rooms, being divided into two stories, each of which consisted of two apartments. Those on the lower floor were used as chemical laboratory and lecture room; those on the upper floor as anatomical museum and lecture room. But after the building of Boylston Hall each story was converted into one large recitation room, and later these were thrown together into a single room. In recent years Holden Chapel has been used chiefly for religious purposes, society meetings, etc.

Holworthy Hall was built in 1812, chiefly from the proceeds of a lottery authorized by the State of Massachusetts. It was named for Sir Matthew Holworthy, an English merchant, who at his death in 1678 left to the College £1,000, the largest single gift received in the seventeenth century. Used always as a dormitory, this hall has for many years been considered, on account of its large rooms, the most desirable in the Yard, and was for a while used exclusively by seniors. Room 12, which was visited in 1860 by the Prince of Wales and in 1871 by the Grand Duke Alexis, contains pictures of these personages presented by themselves. Holworthy has 24 suites of rooms, each consisting of a study and two single bedrooms.



HOLLIS HALL



STOUGHTON HALL



Thayer Hall was erected in 1869-70 at a cost of \$100,000. It was the gift of Nathaniel Thayer, a merchant of Boston, a member of the Board of Overseers from 1866 until 1868, and a Fellow of the College from 1868 until 1875. He gave it in memory of his father, Nathaniel Thayer, of the Class of 1789, a tutor in the College in 1792-93, and of his brother, John Eliot Thayer, the founder of the Thayer Scholarships. This dormitory, which contains 68 suites of rooms, was designed to accommodate 116 students and three officers.

Weld Hall, containing 54 suites of rooms, of which 22 are single and the rest double, was built in 1871-72, at a cost of about \$97,000. It was given by William Fletcher Weld in memory of his brother, Stephen Minot Weld, of the Class of 1826, a benefactor of the College, a member of the Board of Overseers from 1858 until his death in 1867, and one of the first to conceive the idea of Memorial Hall.

Grays Hall, built in 1863 by the College, is named for Francis Calley Gray, of the Class of 1809, a Fellow of the College from 1826 until 1836, John Chipman Gray, of the Class of 1811, a member of the Board Overseers from 1847 until 1854, and William Gray, of the Class of 1829, a member of the Board of Overseers from 1866 until 1872, all three benefactors of the University. It has always been used as a dormitory, and has 49 suites of rooms, each consisting of a study and an alcove. Antiquarian research has made it seem probable that the first of all the College buildings stood on the site of this hall.

Holyoke House, on Massachusetts Avenue, opposite Grays Hall, was erected by the President and Fellows in 1870-71, at a cost of \$120,000, and contains 50 suites of rooms. The ground floor is occupied by stores.

Matthews Hall, completed in 1872, was the gift of Nathan Matthews, of Boston, who stipulated that half the net income from the dormitory should be used to aid needy and deserving scholars; students for the ministry of the Protestant Episcopal Church and sons of ministers of that church to be preferred. The fifteen Matthews Scholarships were thus established. This dormitory, containing 60 suites of rooms, is thought to stand on the site of the old Indian College, built in 1654.

Dane Hall, built with \$7,000*given by Nathan Dane, of Beverly, of the Class of 1778, a delegate to the Continental Congress, was completed in 1832; but when Matthews Hall was built, Dane was moved a short distance south of its original site. The Law School occupied the building until 1883, when Austin Hall was built. In 1882 certain rooms in Dane were given over to the Harvard Coöperative Association, which still occupies them. Other rooms are now used for lectures and for the Psychological Laboratory; one room contains the Musical Library, of about 200 volumes. After the summer of 1899, the Bursar's Office will be in this building. In 1845, and again in 1891, Dane Hall was enlarged.

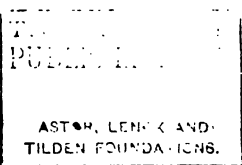
The Psychological Laboratory, founded in 1891, occupies the second floor of Dane Hall, and consists of ten working rooms and one large lecture room. It is devoted



HOLDEN CHAPEL



HOLWORTHY HALL



chiefly to original research work in all fields of experimental psychology, and secondarily to courses for beginners in psychology. The apparatus may be classified in five groups.

The *first* group contains the collection of instruments for the study of seeing, hearing, and touching. In the service of the optical investigations two rooms are fitted up as dark rooms, equipped with the heliostates and with instruments for the study of color-sensations. The *second* group contains the means for studying the centrifugal processes, such as emotion, volition, action; among them the instruments for the time measurement of psychical processes and for the registration of expression. The apparatus of the *third* group is employed in the study of the ideas and their associations, of memory and apperception, of space and time, and of attention and feeling. The *fourth* group contains models of brain and sense organs, mostly with detachable parts; microscopes, with histological nerve preparations; apparatus demonstrating the functions of eye and ear. The *fifth* group includes a regular workshop, with carpenter's bench, electrical outfit with batteries, motors, induction coils, galvanometers, etc.; chemical and mechanical, anatomical and physiological outfits; and a full line of all material for preparing the apparatus for the varying purposes of new investigations.

The reference library contains full sets of the leading psychological and philosophical magazines and a collection of philosophical, psychological, and physiological handbooks and monographs. Large charts of the nervous system, pictures of psychologists, and diagrams showing optical illusions, etc., cover the walls of the rooms.

College House, on Massachusetts Avenue, opposite Dane Hall, was originally called Graduates' Hall. It was erected at the expense of the College in 1832. In 1845, when it was occupied largely by law students, an addition was made in order to give room for a store and for the office of the Omnibus Company. The addition was made at the expense of a building occupied by students and called College House, or, more familiarly, "the old den." Undergraduates were first allowed to room in Graduates' Hall in 1846-47, but it was not until 1860 that the name was changed to College House. The upper floors contain 70 rooms; the ground floor is occupied by stores.

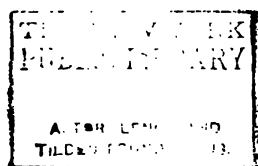
Wadsworth House was built partly with a grant of £1,000 made by the General Court of Massachusetts Bay in 1726, the year after President Wadsworth was inaugurated; partly with other funds, as the Court would not grant enough to complete it. It was finished in 1727, and cost altogether about £1,800. It is the oldest building now standing except Massachusetts Hall. At first called the President's House, it was occupied by successive presidents until 1849. It was the headquarters of Washington and Lee for a short time in 1775, until more spacious quarters were obtained in the old Vassall House, now known as Craigie House, later the residence of Longfellow. Undoubtedly, some of the first despatches sent by Washington to Congress, to Richard Henry Lee, and to General Schuyler, were written in Wadsworth. Towards the close of the century the building was enlarged, and after 1849 it was used as a dormitory and boarding house for students. It is at



THAYER HALL



WELD HALL



present occupied by the Preachers to the University and a few students.

Boylston Hall was erected in 1857 with a fund bequeathed by Ward Nicholas Boylston, which was subsequently much increased by subscription. The building was enlarged by the addition of a third story in 1870, and the accommodations were still further extended in 1891 and 1895. It is occupied by the Department of Chemistry of Harvard College, of the Lawrence Scientific School, and of the Graduate School.

On the entrance floor are four laboratories. The laboratory for quantitative analysis (Room 2) is provided with hoods, apparatus for electrolysis, and water-baths of novel construction. In the weighing-room adjoining this laboratory is a collection of 203 new compounds and 50 other substances illustrating the original work of the department before the year 1893. The laboratory for inorganic research (atomic weights) is entered through the laboratory for quantitative analysis.

The laboratory for physical chemistry is in Room 4; the laboratory for elementary chemistry is in Room 5.

In the basement is a laboratory for descriptive inorganic chemistry.

On the second floor are the lecture rooms and the rooms for chemical apparatus and specimens (Rooms 7, 9, 10). A selected collection of specimens is exhibited in two cases in the entry for the use of the class in inorganic chemistry. The library (Room 8) is also on this floor. It contains the more important chemical textbooks and periodicals (1600 volumes and over 5000 dissertations), to be used for consultation only; it is supple-

mentary to the larger collection of books on chemistry in Gore Hall.

On the third floor is the laboratory for organic chemistry (Room 11), with places for men studying elementary chemistry, and for students of research. On the same floor is the laboratory for qualitative analysis, which also accommodates the overflow of the class in descriptive inorganic chemistry.

The storerooms for apparatus and chemicals are in the garret.

Sever Hall, completed in 1882 at a cost of about \$115,000, is named for Mrs. Ann E. P. Sever, who left \$100,000 to the College. It was designed by Henry Hobson Richardson, of the Class of 1859. It contains 37 rooms, used chiefly for recitations and lectures. Here, too, are the departmental libraries of English, French, German, Indo-Iranian, Semitic, and Romance Languages.

The Child Memorial Library (Room 2) was founded in 1897 by a subscription among the friends and the former pupils of Professor Francis James Child to perpetuate the memory of his services to the University and to learning. This subscription resulted in a sum of nearly \$11,000, the income of which is spent under the direction of the Department of English for the purchase of books relating to the study of English.

With the Child Memorial Library are kept the *Library of the Department of Germanic Languages and Literatures*, and the *Library of Romance Philology*.

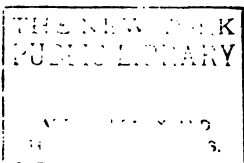
The Library of the Division of Semitic Languages and History (Room 7) was established by the generosity of Jacob H. Schiff, Esq., of New York; a few gifts have been



GRAY'S HALL



HOLYOKE HOUSE



received from other persons. It is intended to supply students in Semitic languages and history with the requisite aids for special investigation; as far as possible the purchase of text-books and of books found in the College Library is avoided.

The Library of the Department of Indo-Iranian Languages (Room 15) contains books on the religions, the antiquities, and the literature of India, in part supplementing and in part duplicating the collection in the College Library. Here are also kept some 500 manuscripts of Sanskrit and Prakrit texts, purchased for the University by Professor Lanman in India. These, with about as many more given to the University by Dr. Fitzedward Hall, of the Class of 1846, form the largest collection of Indic manuscripts in America.

This library also contains maps and many large, mounted photographs of Indic antiquities and scenery. From these pictures have been made nearly 250 lantern-slides, illustrating especially subjects concerning the archaeology of India, and this collection of slides is from time to time increased. The room contains three cases with over 340 electrotpe reproductions, made from the originals in the British Museum, of coins struck in India before the Mohammedan invasion of 1000 A.D.

Here, also, is placed the Siamese edition of the Sacred Books of the Buddhists, in 39 volumes, made by the King of Siam to commemorate the 25th anniversary of his accession to the throne, and by him given to the University.

The Library of the Department of French (Room 21) is strictly a reference library for the use of instructors and students in the higher courses, and comprises a careful

selection of the most useful works in French literature from the middle ages to the present day. The books are classified, and a card catalogue further facilitates consultation.

In the library and adjoining rooms (Rooms 19 and 23) are displayed numerous photographic reproductions, including portraits of literary and historical celebrities, important paintings, and views of historical scenes and buildings and of Paris and other French cities. Some interesting autographs are framed and hung in the library. Persons interested can usually get access to the rooms by applying to the officer in charge, or, in his absence, to the porter of the hall.

The Fine Arts Drawing Room (Room 37) is provided with working tables for students. Here is kept a considerable collection of drawings, photographs, engravings, and casts for class use. Among the drawings are a few original ones by Prout and Ruskin, and among the photographs are several of important drawings by Viollet-le-Duc.

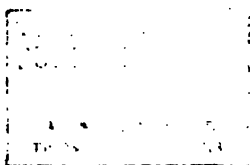
Appleton Chapel, the second building belonging to the University designed solely for religious worship, was the gift of Samuel Appleton, of Boston, who left \$200,000 to the College with the direction that one-fourth of it should be spent for a chapel. It was built at a cost of nearly \$68,000, and was completed in 1858. In the interior a good many changes have been made: the pulpit, at first on the northern side, is now at the eastern end; the roof proved defective and had to be altered; the galleries are of recent date. The later improvements are due to the liberality of the children of



MATTHEWS HALL



DANE HALL



Nathan Appleton, of Boston. Here are held the daily religious services of the University.

The management of the religious services of the University is entrusted to a Board of Preachers, which was established by the following vote of the President and Fellows, of date May 10, 1886:—

“That five preachers to the University be annually appointed by the President and Fellows, with the concurrence of the Board of Overseers, who, in conjunction with the Plummer Professor of Christian Morals, shall arrange and conduct the religious services of the University.” The Board of Overseers at once concurred in this vote, and in 1892 it was incorporated in the Statutes of the University.

In June, 1886, on the unanimous recommendation of the Preachers and the Plummer Professor, the President and Fellows voted “That the statute numbered 15, concerning religious exercises, be amended by striking out the clause, ‘at which the attendance of the students is required’”; and the Board of Overseers concurred in this vote also. Attendance at the religious services of the University was thus, by the advice of those who conduct the services, made wholly voluntary.

Each member of the Board of Preachers conducts daily morning prayers, which are held at quarter before nine o’clock, for about three weeks in each half-year, and each preaches on four Sunday evenings. The preacher conducting morning prayers is in attendance every morning during his term of duty at Wadsworth House 1, and is at the immediate service of any student who may desire to consult him. On Thursday afternoons from November to May vesper services are held in the University Chapel.

These services are brief, largely musical, with an address from one of the Preachers. Occasionally, the Board invites other preachers, of various communions, to conduct the Sunday evening services. The music at all services is by the College choir, a full male chorus of 25 sopranos and altos and 16 tenors and basses.

There have served on the Board of Preachers since its foundation in 1886 :—

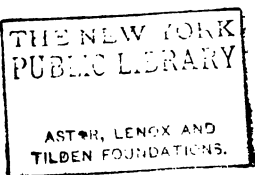
EDWARD EVERETT HALE, D.D.
 ALEXANDER MCKENZIE, D.D.
 THEODORE C. WILLIAMS, D.B.
 GEORGE A. GORDON, D.D.
 PHILLIPS BROOKS, D.D.
 WILLIAM LAWRENCE, S.T.D.
 BROOKE HERFORD, D.D.
 HENRY VAN DYKE, D.D.
 LYMAN ABBOTT, D.D.
 CHARLES CARROLL EVERETT, D.D.
 WASHINGTON GLADDEN, D.D.
 LEIGHTON PARKS, D.D.
 J. ESTLIN CARPENTER, A.M.
 E. WINCHESTER DONALD, D.D.
 SAMUEL MCHORD CROTHERS, A.B.
 SIMON J. MCPHERSON, D.D.
 JOHN H. VINCENT, D.D.
 SAMUEL D. MCCONNELL, D.D.
 PHILIP S. MOXOM, D.D.
 GEORGE HARRIS, D.D.
 GEORGE HODGES, D.D.
 WILLIAM DEWITT HYDE, D.D., LL.D.
 WILLIAM H. P. FAUNCE, A.M., D.D.
 WILLIAM WALLACE FENN, D.B.



COLLEGE HOUSE



WADSWORTH HOUSE



The William Hayes Fogg Art Museum, nearly opposite Memorial Hall, is a fire-proof building of Indiana stone, erected at a cost of \$150,000, and completed in the year 1895. It was founded by Mrs. Elizabeth Fogg, of New York, in memory of her husband, whose name it bears. Mrs. Fogg bequeathed to the President and Fellows for this purpose the sum of \$220,000. Out of the balance of this sum, with its accrued interest, after paying the cost of the building, the expenses of the first equipment of the Museum were met, and the remainder (about \$50,000) is reserved as a fund to defray a part of the cost of maintenance and administration.

The building is of two stories, having a lecture-room, with a seating capacity of about five hundred, attached. The ground floor is divided into a large hall and five smaller rooms. In the main exhibition hall are gathered casts of some of the finest examples of Greek and Greco-Roman sculpture, illustrating the work of all periods of Greek art. Among the important objects represented are the colossal statue of Apollo from the Temple of Zeus at Olympia; a large portion of the frieze and the pediment sculptures of the Parthenon; the Hermes of Praxiteles; the Venus of Melos; various sculptures lately found at Epidaurus; a colossal relief from the Arch of Trajan at Beneventum; and others. In the middle west room is a small number of casts from Egyptian and Assyrian sculptures; in the southwest room a classified collection of electrotypes from Greek and Roman coins and a few fine Greek vases; in the east rooms are a few casts from Mediaeval sculptures, and a considerable number of casts from sculptures of the Italian Renais-

sance. Among these last are the beautiful recumbent statue from the tomb of Ilaria del Carretto by Jacopo della Quercia, the St. George of Donatello, the David of Verrochio, and several of the finest works of Michael Angelo—including two figures from the Medicean tombs, the Pietà of Rome, and the Madonna of S. Lorenzo.

On the walls of the corridor of the upper floor a large number of photographs from drawings by the Italian and German masters of the Renaissance will be found, together with a number of solar enlargements of photographs from Egyptian, Greek, and Mediaeval architectural monuments. The large upper gallery is at present used for the exhibition, by relays, of photographs from works of art of various schools and epochs. The west rooms on this floor are devoted to the storage of photographs and to the work of administration.

The collection of photographs numbers upwards of 26,000. It affords a wide range of illustrations of the Fine Arts of all epochs and all countries, including architecture, sculpture, and painting. These photographs, which are kept in dust-proof cases, are conveniently classified and catalogued for use. They are always accessible to members of the University, and other suitable persons, on application to the Director's assistants. Large tables are provided for convenient examination of the photographs, and conveniences for tracing, copying, and note-taking are afforded.

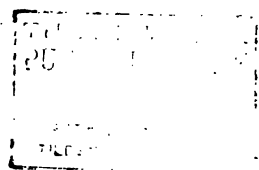
In the larger east room on this floor, and in a part of the great gallery, are deposited the Gray and the Randall collections of engravings, which together include about 30,000 prints. The Gray Collection was bequeathed to Harvard College, with provision for its increase and main-



BOYLSTON HALL



SEVER HALL



tenance, by Francis Calley Gray, of the Class of 1809. It is rich in prints from the works of the great early German and Italian wood and metal engravers and etchers; and contains many specimens of later forms of engraving, including numerous examples of more modern work. This collection is exhibited by relays in glazed dust-proof cases; and access to the prints in the storage cases may always be had, under suitable regulations, on application to the Director or his assistants.

The Randall Collection was given to the College in the year 1892 by Miss Belinda L. Randall in accordance with the wishes of her brother, John Witt Randall, of the Class of 1834, together with the sum of \$30,000 to establish a fund, the income of which is to be used, as far as it may be needed, for the care and preservation of the prints; any surplus income may be used at the discretion of the President and Fellows for the general purposes of "the department of Engravings and allied branches of the Fine Arts." This large collection, gathered by Mr. Randall to illustrate the history of the art of engraving, contains some very important prints.

The Randall Collection is accessible under the same regulations which apply to the Gray Collection.

Memorial Hall and Sanders Theatre. — When the President and Fellows voted to accept this building, they took occasion to say of it that it was "the most valuable gift which the University has ever received, in respect alike to cost, daily usefulness, and moral significance." The daily usefulness of the building is chiefly due to its western end, which serves as a dining hall for students; the eastern end is the principal place of assem-

bly on occasions of academic ceremonial; the moral significance of the whole is set forth especially in the transept, which one enters first.

Sanders Theatre, as the eastern end is called, is named for Charles Sanders, of the Class of 1802, from whose bequest it was built. The dining hall and the transept were built by a committee of the alumni, with funds given by numerous graduates and friends of the University, as a memorial to the sons of Harvard who fought for the preservation of the Union, and especially to those who fell.

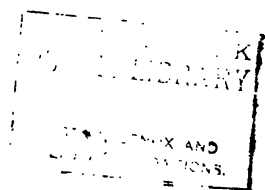
At a meeting of graduates in Boston, in May, 1865, a committee of eleven was appointed to consider the subject of a permanent memorial. They reported at the next Commencement in favor of a memorial hall. A committee of fifty was named, with full power to act. Charles Greely Loring, of the Class of 1812, was made chairman, and many distinguished gentlemen were among his associates. The plan of a memorial hall, providing a meeting place for the alumni, a dining hall for the students, and a commemorative monument to the soldiers of Harvard, was adopted; William Robert Ware, of the Class of 1852, and Henry Van Brunt, of the Class of 1854, were appointed architects; and a building committee and a committee on finance were appointed to carry out the work. The old "Delta," long a play ground, was secured for a site, the University obtaining Jarvis Field in exchange. The corner stone was laid October 6, 1870; the dining hall and the memorial vestibule were finished in the summer of 1874; Sanders Theatre was first occupied Commencement Day, 1876. The whole building was transferred to the President and Fellows in July, 1878. The total cost



APPLETON CHAPEL



THE WILLIAM HAYES FOGG ART MUSEUM



up to that time was \$368,482. Many additions and adornments have since been given by classes, individual graduates, and friends. The extreme length of the building is 305 feet; the width through the axis of the transept is 113 feet; the tower is 190 feet high. The clock in the tower is the gift of the Class of 1872, and was placed there in 1897. On the exterior of the theatre, at the east end, are busts of seven orators — Demosthenes, Cicero, St. Chrysostom, Bossuet, Pitt, Burke, and Webster, all executed in sandstone by John Evans, of Boston; at the west end, in the cloister porch, are a marble statue of President Everett, by Hiram Powers, a bronze bust of President Walker, by Miss Anne Whitney, and a tablet erected to the memory of Edward Augustus Wild, of the Class of 1844, Brigadier General, United States Volunteers. The iron gates of the cloister were given by a member of the Class of 1871. Inscription:

C · A · GOODNOW

A · B · 1871 · FORES · SUA · PEC · F

The inscriptions on the outside of the building are as follows:

The dedicatory inscription, beginning above the south entrance to the transept and ending above the north entrance, is

MEMORIAE · EORVM

QVI · HIS · IN · SEDIBVS · INSTITVTI

MORTEM · PRO · PATRIA · OPPETIVERVNT

VT · VIRTVTIS · EXEMPLA

SEMPER · APVD · VOS · VIGEANT

SODALES · AMICIQVE · POSVERVNT

Which may be translated :

In memory of
the men trained here
who
Gave their Lives for their Country
this Hall is built
by their Classmates and Friends
to the end that Ensamples of Manhood
be ever in honor among you.

The dates 1861 and 1865 are inscribed on the south front, though they form no part of the dedicatory sentence.

Above the great west window are the words *HUMANITAS · VIRTUS · PIETAS*, and below it: *AEDIFICATA · ANN · DOM · MDCCCLXXI · ANN · COLL · HARV · CCXXXV*

In the interior of the transept, above the wainscoting, the two rising to a height of 24 feet, are marble tablets inscribed with the names of those students and graduates who fell in the war for the Union. Of these, 97 had been in Harvard College, 17 in the Medical School, 13 in the Law School, 6 in the Scientific School, 2 in the Divinity School, and 1 in the Astronomical Observatory. The dates of their deaths and the places where they fell are also given. Above the tablets are various inscriptions, as follows : —

On the east wall, in the centre :

THIS HALL
COMMEMORATES THE PATRIOTISM
OF THE GRADUATES AND STUDENTS OF THIS UNIVERSITY
WHO SERVED IN THE ARMY AND NAVY OF THE UNITED STATES
DURING THE WAR FOR THE PRESERVATION OF THE UNION
AND UPON THESE TABLETS
ARE INSCRIBED THE NAMES OF THOSE AMONG THEM
WHO DIED IN THAT SERVICE

On the east wall near the south entrance, from Cicero,
Philippics, 14, 34 :

OPTIMA · EST · HAEC · CONSOLATIO
PARENTIBVS · QVOD · TANTA · REIPVBLICAE · PRAESIDIA · GENVERVNT
LIBERIS · QVOD · HABEBVNT · DOMESTICA · EXEMPLA · VIRTVTIS
CONIVGIBVS · QVOD · IIS · VIRIS · CAREBVNT
QVOS · LAVDARE · QVAM · LVGERE · PRAESTABIT

Translation: This is the best comfort unto their parents, that they have begotten such strong defences of the Republic, unto their children that they shall have of their own kindred examples of manhood, unto their wives that they shall be widows of husbands fitter for eulogy than for weeds.

At the other end of the east wall, from the Vulgate version of St. Luke, 17, 33 :

QVICVNQVE · QVAESIERIT · ANIMAM · SVAM
SALVAM · FACERE · PERDET · ILLAM
ET · QVICVNQVE · PERDIDERIT · ILLAM · VIVIFICABIT · EAM

“ Whosoever shall seek to save his life shall lose it;
and whosoever shall lose his life shall preserve it.”

Below this is the hexameter verse, adapted from Lucretius, 3, 869 :

MORTALEM · VITAM · MORIS · IMMORTALIS · ADEMIT

That is :

Immortal death hath reft their mortal life away.

On the west wall, proceeding from south to north :

Cicero's version of Simonides's epigram on the Spartans who fell at Thermopylae (*Tusc. Disp.* 1, 101) :

DIC · HOSPES · SPARTAE · NOS · TE · HIC · VIDISSE · IACENTES
DVM · SANCTIS · PATRIAE · LEGIBVS · OBSEQVIMVR

Translation :

Tell Sparta, friend, you saw us lying here
Obedient to our country's holy laws.

From Cicero, *Philippics*, 14, 31 :

O · FORTVNATA · MORS · QVAE · NATVRAE · DEBITA
PRO · PATRIA · EST · POTISSIMVM · REDDITA

Translation : O happy death when the debt to Nature
is paid with free choice for one's native land !

Adapted from the *Wisdom of Solomon*, 4. 13 :

CONSUMMATI · IN · BREVI · EXPLEVERVNT · TEMPORA · MVLTA

They, "being made perfect in a short time, fulfilled a
long time."

From Plautus, *Amphitruo*, 649 :

VIRTVS · OMNIBVS · REBVS · ANTEIT · PROPECTO
LIBERTAS · SALVS · VITA · RES · ET · PARENTES
ET · PATRIA · ET · PROGNATI · TVTANTVR · SERVANTVR

Translation :

In sooth, 'tis Courage that surpasseth all :
The watch and ward of freedom, safety, life,
Of fortune, parents, offspring, fatherland.

From Cicero, *Philippics*, 14, 30 :

GRATA · EORVM · VIRTVTVM · MEMORIA · PROSEQVI
QVI · PRO · PATRIA · VITAM · PROFVDERVNT

Translation : With grateful memory to honor them that
have yielded up life for native land.

From Cicero, *Philippics*, 14, 32 :

BREVIS · A · NATVRA · NOBIS · VITA · DATA · EST
AT · MEMORIA · BENE · REDDITAE · VITAE · SEMPITERNA

Translation : A short life hath been given by Nature unto man ; but the remembrance of a life laid down in a good cause endureth for ever.

From Bacon, *Antitheta* 5, in his *De Augmentis Scientiarum*, lib. 6 :

BREVITORVM · AETERNITAS · SVBOLES
VIRORVM · FAMA · MERITA · ET · INSTITVTVA

Compare Bacon's *Essays*, 7 : "The perpetuity by generation is common to beasts ; but memory, merit, and noble works are proper to man."

Adapted from the *Wisdom of Solomon*, 4, 1 :

IMMORTALIS · EST · ENIM · MEMORIA · ILLORVM
QVONIAM · ET · APVD · DEVM · NOTA · EST · ET · APVD · HOMINES

Translation : "The memorial" of these "is immortal : because it is known with God, and with men."

Above the small doors in the west wall :

ABEVNT · STVDIA · IN · MORES

From the Ovidian *Epistle of Sappho to Phaon*, and meaning : Our studies breed our habits.

RECTI · CVLTVS · PECTORA · ROBORANT

From Horace, *Odes*, 4, 4, 34, meaning : Right training is the strength of character.

The great north window in the transept was given by Martin Brimmer, of the Class of 1849, Fellow of Harvard

College 1877-96, in memory of the sons of Harvard who fell in the Civil War. It was unveiled on Commencement Day, 1898. The artist, Sarah Wyman Whitman, writes of it thus: "The design of this window is to commemorate the forces which inspired these heroes. Love of the University is symbolized, at one end of the five lower panels, by the Scholar; and, at the other end, love of Country, by the Soldier. Above these are four cherubs, holding tablets inscribed with the heroic virtues (*Amor, Honor, Virtus, Patientia*); and higher still are angelic figures of praise; while the design culminates in a Rose, wherein the ascription of Glory to God is typified in color, with a choir of angels circling round the centre."

The inscriptions and subordinate scenes in the design are as follows:

On the scrolls held by the angels on either side of the Rose, from *Psalms*, 115, 1: NON · NOBIS · DOMINE · NON · NOBIS · SED · TVO · NOMINI · GLORIA · SIT. Translation: "Not unto us, O Lord, not unto us, but unto thy name give glory."

On the panel next the Scholar, a picture of Sir Philip Sidney giving the cup of water to the soldier, with an inscription as follows: VERE · TV · ES · DIGNVS · OMNI · SERVITIO · OMNI · HONORE · ET · LAVDE · AETERNA. From the *Imitatio Christi*, *Lib. III, Cap. X*, 45. Translation: Truly thou art worthy of all service, all honor, and all praise forever.

On the panel next the Soldier, a picture of St. Martin giving his cloak to the beggar. The accompanying inscription contains the saying of St. Martin when, at a crisis in his life, he dedicated himself anew to the service of God. The Latin words are a translation by Mr. Brimmer from



MEMORIAL HALL AND SANDERS THEATRE

NEW YORK
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the passage in a French life of the Saint : *SI · TIBI · OPVS · EST · MEO · LABORE · NON · RECUSO · LABOREM.* In English :
 “If my labor can serve thee, I will not withhold it.”

The inscription on the middle panel is :

*SALVE · QVISQVIS · ADES
 EORVM · ADSPICIS · NOMINA · HARVARDIANORVM
 QVI · FERVIDI · ADVLESCENTES · SEV · PLENIORE · VIRI · CONSILIO
 VT · INTEGRA · MANERET · RES · PVBLICA
 OPPETIVERVNT · MORTEM
 QVAE · MORIENTES · CONSERVABANT · ILLI
 EA · TV · COLITO · DVM · VIVIS
 VT · HOMINES · APVD · NOS · MAGIS · SINT
 LIBERI · BEATI · CONCORDES*

Translation : Greeting, whoe'er thou art. Thou see'st the names of the men of Harvard who in ardent youth or manhood's riper resolution laid down their lives that the Republic might live. Pattern thy life by the principles they maintained in death, to make men freer, happier, and more united.

At the bottom of the window :

MARTINVS · BRIMMER · ALVMNVS · SOCIVS · DONVM · DEDIT,
 that is, The gift of Martin Brimmer, Alumnus and Fellow.
 The two dates, 1829 and 1896, are those of the birth and death of Mr. Brimmer.

In the south window are the names of the Virtues.

From the gallery above the door leading to the dining hall hang two flags, the gift of the nation to Miss Dorothea Dix — a gift which she herself chose — for her services during the War. These flags she bequeathed to the University.

From the transept two doorways lead to the floor of Sanders Theatre, and two stairways to the balcony and the gallery. The Theatre is polygonal; the stage is at the west end, and the seats rise towards the eastern walls. The seating capacity is about 1300. Above the stage is a canopy, serving as a sounding board, and a small gallery for musicians. The inscription on the wall above the gallery is as follows :

HIC · IN · SILVESTRIBUS
 ET · INCVLTI · LOCIS
 ANGLI · DOMO · PROFVGI
 ANNO · POST · CHRISTVM · NATVM · CIO · IO · C · XXXVI
 POST · COLONIAM · HVC · DEDVCTAM · VI
 SAPIENTIAM · RATI · ANTE · OMNIA · COLENDAM
 SCHOLAM · PVBLICE · CONDIDERVNT
 CONDITAM · CHRISTO · ET · ECCLESIAE · DICAVERVNT
 QVAE · AVCTA · IOHANNIS · HARVARD · MVNIFICENTIA
 A · LITTERARVM · FAVTORIBVS · CVM · NOSTRATIBVS · TUM · EXTERNIS
 IDENTIDEM · ADIVTA
 ALVMNORVM · DENIQVE · FIDEI · COMMISSA
 AB · EXIGVIS · PERDVCTA · INITIIS · AD · MAIORA · RERVM · INCREMENTA
 PRAESIDVM · SOCIORVM · INSPECTORVM · SENATVS · ACADEMICI
 CONSILII · ET · PRVDENTIA · ET · CVRA
 OPTVMAS · ARTES · VIRTVTES · PVBLICAS · PRIVATAS
 COLVIT · COLIT

QVI · AVTEM · DOCTI · FVERINT · FVLGEBVNT · QVASI · SPLENDOR · FIRMAMENTI
 ET · QVI · AD · IVSTITIAM · ERVDIVNT · MVLTOS
 QVASI · STELLAE · IN · PERPETVAS · AETERNITATES

Translation :

Here in the woods and wilds
 Englishmen, fugitives from home,
 in the year of our Lord 1636,
 the sixth after the settlement of the Colony,
 holding that the first thing to cultivate was wisdom,
 founded a College by public enactment
 and dedicated it to Christ and his Church.
 Upraised by the generosity of John Harvard,
 aided again and again by patrons of learning both
 here and abroad,
 entrusted finally to the charge of its alumni,
 from small beginnings guided to a growth of greater powers
 by the judgment, foresight, and care
 of its Presidents, Fellows, Overseers, and Faculties,
 it has ever cultivated the liberal arts and public and
 private virtues,
 and cultivates them still.

The rest of the inscription is from the Vulgate translation of the book of Daniel, 12, 3 : "And they that be wise shall shine as the brightness of the firmament ; and they that turn many to righteousness as the stars for ever and ever."

In the panel at the north side of the gallery is the donor's inscription :

CAROLVS · SANDERS
 A · B · ANNI · CIO · IO · CCC · II
 THEATRVM
 ALVMNIS · ACADEMICIS
 SVA · PEC · F

In the south panel is the date :

AEDIFICATVM · ANNO · POST · CHR · NAT
 CIO · IO · CCC · LXXVI
 POST · POP · AMER · LIBERATVM
 C

The marble statue of President Quincy, by William Wetmore Story, of the Class of 1838, is the only piece of statuary in the Theatre. On the basement floor there are large dressing rooms.

The dining hall, which occupies the long western portion of the building, is entered from the centre of the transept. Another door, at the north end of the transept, leads into the Auditor's office; thence a stairway leads to a gallery overlooking the dining hall. From this gallery one can pass into rooms set apart for the various administrative offices, into a gallery overlooking the transept, and by a stairway into the tower.

The dining hall is 149 feet long, 60 feet wide, and, to the ridge, 66 feet high. More than 1100 students, members of the Dining Association, regularly take their meals here. A board of directors, chosen by the members, administer, under certain regulations of the President and Fellows, the affairs of the Association.

Inside the hall are busts and portraits of alumni and benefactors, each marked with the name of the subject and the artist. The great western window shows the armorial bearings of the nation, the state, and the University. The stained glass windows on the north and the south are all memorial windows, given chiefly by various classes. Beginning on the left as one enters, the figures in the windows and the inscriptions are as follows :

1. This window is yet unfilled.

2. Window of the Class of 1859 ; by John La Farge. Subject : Cornelia, mother of the Gracchi, showing her sons to her sister who is playing with her jewelry. Inscription : CORNELIA · MATER · GRACCHORVM. Then follow Cornelia's famous words : HAEC · ORNAMENTA · MEA · SVNT — “ These are *my* jewels.”

3. Davis Memorial Window ; by Henry Holliday ; given by the Davis family. Figures : Columbus and Blake. Inscriptions : At the top, Port Royal — Memphis — Fort Pillow. In the left hand window, Columbus, Born 1442, Died 1506. In the right hand window, Blake, Born 1599, Died 1657. The memorial inscription proper, occupying the lower part of both windows, is as follows :

MEMORIAE · CAROLI · HENRICI · DAVIS · PRAEF · NAV · VIRI
 BELLI · ET · PACIS · ARTIBVS · PRAESTANTIS · NATVS · EST
 A · D · XVII · K · FEB · A · CIO · IO · CCC · VII · MORTVVS
 A · D · XII · K · MART · A · CIO · IO · CCC · LXXVII · ALVMNVS
 A · CIO · IO · CCC · XXV · LL · D · CIO · IO · CCC · LXVIII · PER
 LV · ANNOS · SINGVLAREM · FIDEM · PRVDENTIAM · VIRTVTEM
 AD · REIPVBLICAE · VTILITATEM · ET · SALVT · CONTVLIT
 HVIC · OB · REM · BENE · NAVIBVS · GESTAM · GRATISSIMIS
 VERBIS · GRATIAS · EGIT · SENATVS · POPVLVSQVE · AMERICANVS

Translation : To the memory of Charles Henry Davis, Rear Admiral in the Navy, eminent in the arts of war and of peace. He was born January 16, 1807; died February 18, 1877; A.B. 1825; LL.D. 1868. During 55 years he served and safeguarded the Republic with singular loyalty, foresight, and valor. He received the grateful thanks of Congress and the American people for his distinguished service in our fleets.

4. Window of the Class of 1844; by Henry Holliday. Figures: Dante and Chaucer. Inscriptions: Dante, Born 1265, Died 1321. Chaucer, Born 1328, Died 1400. Below: MEMORIAE · EORVM · QVI · HIS · EX · SEDIBVS · A · CIO · IO · CCC · XLIII · EGRESSI · DE · COLLEGIO · CONDIPCIVLISQVE · BENE · SVNT · MERITI · SODALES · POSVERVNT

Translation : Erected by their classmates to the memory of the members of the Class of 1844 who have earned the gratitude of the College and of their fellow students.

5. Window of the Class of 1857; by Cottier & Co., London. Subjects: Sir Philip Sidney, and, below, the battle field of Zutphen; Epaminondas, and, below, a mother giving her son a shield. Inscription: In Memory of those Classmates who fell in the War. Erected A.D. 1879.

6. Window of the Class of 1860; by John La Farge. Subject: A battle Scene. Inscription: IN MEMORIAM MDCCCLX.

7. Window of the Class of 1877; by W. J. McPherson. Figures: Charlemagne and Sir Thomas More.

8. Window of the Class of 1854; by Frederic Crowninshield, of the Class of 1868. Figures: Sophocles and Shakspeare. Inscription under the figure of Shakspeare:

“Had I a dozen sons, I had rather I had eleven die nobly for their country than one voluptuously surfeit out of action.” From *Coriolanus*, II, 3. Below both figures: In memory of our classmates who fell in defence of the Union.

9. This window is yet unfilled.

Crossing to the north side of the hall and beginning at the west end :

1. Window of the Class of 1875: by C. E. Mills. Figures: La Salle and Marquette.

2. This window is yet unfilled.

3. Window of the Class of 1861; by Frank D. Millet, of the Class of 1869. Figures: The Student and the Soldier. Below the Student, a college lecture room; below the Soldier, a battle field. Inscription: A · LITTERIS · LAETI · PRO · PATRIA · AD · ARMA. Translation: With light hearts from letters to arms for our country.

4. Window of the Class of 1858; by Cottier & Co. Figures: John Hampden and Leonidas. Inscriptions: under Hampden: Died for the cause of civilization and law, and the self-restrained freedom which is their result. [From a letter of James Jackson Lowell, of this Class, written from the field to some of his classmates. He was mortally wounded in the battle of Glendale, June 30, 1862.] Under Leonidas: As for the chances of life or death neither is welcome without honour or duty, either is welcome in the path of honour and duty. [From a letter of Henry Lyman Patten, of this Class, to his mother. Five times wounded in battle, he died from the effects of his last wound, September 10, 1864.] Below: Erected Anno Domini 1882.

5. Window of the Class of 1863 ; by Frederic Crowninshield. Figures : Andromache and Hector.

6. Window of the Class of 1880 ; by John La Farge. Figures : Virgil and Homer.

7. Window of the Class of 1879 ; by Frederic Crowninshield. Figures : Pericles and Lionardo da Vinci. Inscriptions : under Pericles, from his speech in Thucydides, 2, 63 : τῆς τε πόλεως ὑμᾶς εἰκὸς τῷ τιμωμένῳ ἀπὸ τοῦ ἄρχειν, ὥπερ ἅπαντες ἀγάλλεσθε, βοηθεῖν. Translation : You are bound to support our country in the dignity of her government, in which you all take pride. Under Lionardo, from his *Trattato*, book 2 : Il tesoro per se non lauda il suo cumulatore dopo la sua vita come fa la scienza, la quale sempre e testimonia e tromba del suo creatore. Translation (from a Class Report) : "Riches in themselves bring no glory to their possessor at his death, as knowledge does, which is an everlasting witness and herald to its creator."

8. Window of the Class of 1878 ; by F. D. Millet. Figures : General Warren, and below, the Committee on the Suffolk Resolves. John Eliot, and below, Eliot preaching to the Indians.

9. Window of the Class of 1874 ; by Edward Emerson Simmons of the Class of 1874. Figures : Themistocles and Aristides, typifying the reconciliation of the North with the South. Inscription, from Herodotus, 8, 79 : ὡς δὲ ἐξηλθέ οἱ Θεμιστοκλέης, ἔλεγε Ἀριστείδης τάδε· ἡμᾶς στασιάζειν χρόνῳ ἐστί· εἰ ἐν τῷ ἄλλῳ καιρῷ καὶ δὴ καὶ ἐν τῷδε περὶ τοῦ ὁκότερος ἡμέων πλέω ἀγαθὰ τὴν πατρίδα ἐργάσεται. Translation : And when Themistocles came out to him, Aristides said : At all times and chiefly now this should be our rivalry—which of us shall do most good to our country.

The Statue of John Harvard, in the Delta, west of Memorial Hall, was designed by Mr. Daniel C. French. It was the gift of Samuel James Bridge, and was erected in 1884.

Randall Hall, on the corner of Kirkland Street and Divinity Avenue, was built in 1898-99, partly to accommodate the overflow of students unable to obtain board at Memorial Hall, but also with a design to furnish cheaper board than is offered by the Memorial Hall Dining Association. The money, \$70,000, was given by the trustees of the estate of John Witt Randall and Belinda L. Randall, who had left a fortune to be devoted to charitable enterprises.

The dining room is large enough to contain 44 tables, seating 528 persons at the same time; but a larger number will be accommodated. In the main building there are also an auditor's room, a dressing room for student waiters, and, in the basement, toilet rooms. A musicians' gallery overlooks the dining room. An extension to the north of the main building contains the kitchen, pastry kitchen, scullery, vegetables room, cold storage rooms, etc. There are separate living rooms for the custodian of the building. The architects were Wheelwright and Haven, of Boston.

The Lawrence Scientific School Building.—In 1847, Abbott Lawrence of Boston gave to the College, for the promotion of "education bearing upon the great industries of the country," the sum of \$50,000. With half of this money the laboratory and the dwelling-house connected therewith were built in 1848-49, with the in-

tention of adding to them later. It was found, however, that a fund would be needed for the Professorship of Engineering, and the other half was accordingly set aside for this purpose.

The School founded in this way by Abbott Lawrence was for 40 years a separate establishment in the University, governed by a distinct Faculty; but in 1888 it was, along with the College and the Graduate School, placed under the Faculty of Arts and Sciences. The instruction given in the Scientific School has for its main purpose a professional training in the several branches of applied or industrial science, leading to the degrees of Bachelor and Master of Science. This instruction is, as regards courses, intimately blended with that provided for students seeking the degree of Bachelor of Arts, Master of Arts, Master of Science, Doctor of Philosophy, or Doctor of Science. The difference between the training of the College and that of the Scientific School is that in the latter each student's course of study is, to a certain extent, prescribed. The School has now no separate domicile. Its work is done in the various buildings at the service of the Faculty which cares for it. In this commingling of the interests of its students with those of the students in the College, the School differs from like schools affiliated with other universities.

The Engineering Library, on the second floor of the building, contains more than 5000 volumes on engineering subjects; the reading room connected with it is supplied with all the important foreign and American engineering periodicals.

An Instrument Room on the first floor contains surveying instruments, including a number of transits, levels,



THE LAWRENCE SCIENTIFIC SCHOOL BUILDING



THE ROGERS BUILDING

solar compasses, surveyor's compasses, plane tables and alidades, and levels, rods, tapes, and chains.

The Electrical Engineering Laboratory. — Previous to 1891, all the instruction in experimental electricity was given in the Jefferson Physical Laboratory; but in the Fall of that year the small, two-story annex in the rear of the Lawrence Scientific School Building was erected and equipped, the upper floor as a shop for the repair and construction of apparatus, and the ground floor as a dynamo laboratory. Since then the equipment has grown steadily, and several rooms in the basement of the main building are now utilized.

These include an additional Dynamo Laboratory for advanced work, a Standardizing Laboratory for the calibration of instruments and the testing of the Magnetic Properties of Iron and Steel, a well equipped Storage Battery Room, an Arc Lamp Room, and a Photometer Room for the testing of Arc and Incandescent Lamps.

The Department of Physiology and Hygiene occupies two rooms in the east wing of the Lawrence Scientific School Building.

The laboratory on the first floor is devoted to instruction in human physiology and hygiene and to the investigation of problems in hygiene and the physiology of exercise. One end of the room is fitted up as a work-shop, with screw-cutting lathe, and the necessary metal- and wood-working tools for the construction of apparatus. The laboratory contains a collection of physiological apparatus and appliances for hygienic investigation, and apparatus and reagents for physiological and hygienic chemistry; there is, also, a collection of about a thousand photographs and lantern slides, together with charts, maps, and *specimens*.

The laboratory on the second floor contains a working library and a card catalogue, a hood for chemical work, chemical apparatus, and reagents for special work in hygiene and physiological chemistry, analytical balances, histological apparatus, reagents and preparations, incubator, sterilizer, and other apparatus for bacteriological work. Here, too, is new apparatus for the study of the physiology of exercise, and apparatus for the use of students in courses in physiology.

Plans have already been made and accepted for a new building to be devoted chiefly to the engineering work of the Lawrence Scientific School, and \$175,000, a portion of the bequest of Henry L. Peirce to the University, has been set apart for this purpose. The new building will stand at the east end of Holmes field, on Oxford street. It will be four stories high, will have two wings, each measuring forty-two by one hundred and ten feet, and a central lecture hall measuring sixty by fifty feet.

The Rogers Building, more generally known as the Old Gymnasium, was built in 1858 at a cost of \$9,500, of which \$8,000 was given anonymously by a graduate of the University. The name of the donor was made known after his death; he was Henry Bromfield Rogers of the Class of 1822. Until the erection of the Hemenway Gymnasium in 1878, this building was used as a gymnasium; it then served as a storehouse till 1894, when it was occupied and remodelled by the Department of Engineering. It now contains an engineering laboratory, some draughting rooms, and a lecture room.

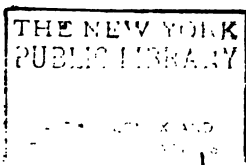
The Engineering Laboratory occupies the whole of the ground floor and contains instruments and apparatus for



THE ROTCH BUILDING (FORMERLY THE CARY BUILDING)



WALTER HASTINGS HALL



such investigations as the engineer may be required to make, as, for instance, on the physical properties of iron, steel and other constructive materials, on the transmission of power, on the action of steam and gas engines and other prime movers, on the flow of water and gases, on boilers and fuels, on lubricants, on the efficiency of machines, and so forth. The machines for testing the strength of materials include one capable of exerting a force of 100 tons. The laboratory also contains several steam and gas engines, water motors, an air compressor, and other machines for illustration and investigation. The testing of road materials for the Massachusetts Highway Commission is done in this laboratory.

The Architectural Building, on the south side of Jarvis Street, on Holmes Field, contains two drawing rooms, a small lecture room, and a small library. The library has several thousand photographs, selected to illustrate the architectural history of the important European countries, and 180 volumes, largely folios. On the walls of the drawing rooms are many casts, illustrating the classic orders and some of the best detail of Greek, Roman, Gothic, and Renaissance work. Of these the more important are architectural details from the Parthenon, the Erechtheion, and the Monument of Lysicrates at Athens; the order of the Temple of Vesta at Tivoli; table stand from the house of Cornelius Rufus, Pompeii; friezes from the Lateran Museum; capitals from the church of St. Laumer at Blois and from the triforium of the cathedral of Laon; and several pilasters and friezes of the early Italian Renaissance.

The trustees of the Rotch Travelling Scholarship have lent to the department a number of the *envois* of scholars, carefully and beautifully rendered measured drawings of important European buildings. The Erechtheion at Athens, the Theatre of Marcellus and the Temple of Concord at Rome, the Baptistry at Ravenna, the Ducal Palace at Venice, the Pazzi Chapel at Florence, the Ospedale del Ceppo at Pistoja, the Municipio at Brescia, the gardens of the villa Lante at Bagnaia, the villa of Pope Julius at Rome, the chateaux of Blois and Chenonceaux are among the buildings illustrated in this way. Examples of the work of advanced students at the Ecole des Beaux-Arts at Paris and of students in the department are also hung on the walls.

The Carey Building, erected in 1890-91 at a cost of \$38,000, was the gift of Henry Reginald Astor Carey. When, in 1898, athletic sports were transferred to the Soldiers' Field, this building was devoted to other uses of the University; and the President and Fellows placed in the Athletic Building on the Soldiers' Field a tablet commemorating the gift of Mr. Carey.

Walter Hastings Hall, the gift of Mr. Walter Hastings, of Boston, whose ancestors in direct line for three generations were alumni of the University, was built in 1888-90 at a cost of about \$250,000. It contains 61 suites of rooms.

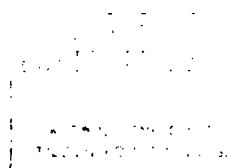
The Jefferson Physical Laboratory.—In 1881 Thomas Jefferson Coolidge, of Boston, of the Class of 1850, gave \$115,000 to the College for a new physical



THE JEFFERSON PHYSICAL LABORATORY



THE HEMENWAY GYMNASIUM



laboratory, on condition that \$75,000 should be raised by subscription and the income appropriated to its support. The building was finished in October, 1884, and was named the Jefferson Physical Laboratory. All the instruction in physics, by recitations, lectures, and experimental work, to students of Harvard College, of the Lawrence Scientific School, and of the Graduate School, is given in this building, which accommodates the various physical cabinets. The building is 200 feet long and, including the basement, four stories high. In the eastern wing the whole height is divided between a large lecture-room below, capable of holding 400 students, and the great laboratory above. In the central and western portions of the building are three recitation rooms for sections of forty or less; but the principal part of the central and western portions is broken up into a large number of small rooms, where professors, assistants, and advanced students can pursue their separate investigations, and be secured against intrusion, or any disturbance of their instruments. In the basement and the first story, stone tables, each supported by a pier which is separated by air spaces from the floors, furnish stable foundation for delicate instruments. Instruments, moreover, can be placed on the walls of a large rectangular tower standing on an independent foundation. This tower rises inside the building and is separated from the main walls of it by a large air space. It does not extend to the roof, and is therefore free from disturbances produced by the movements inside the building and from possible vibrations resulting from gusts of wind.

This tower constitutes a pier of large section nearly 60 feet in height, and more or less stable positions for instru-

ments can therefore be obtained on each story. It is designed for investigations which demand a great height, the different floors opening to each other by trap doors. Small openings have been left in the brick partitions which divide the length of the building; by means of these a long path is available for experiments in which this arrangement may be necessary. In the western wing, iron nails and pipes, which would disturb delicate experiments in magnetism, were excluded in the construction of the building. All steam pipes here are made of brass, and copper nails are used in the flooring. In the bottom of the tower is a small underground room which may be used for experiments requiring a constant temperature.

A room is devoted to apparatus designed for the more accurate standard measurements.

A comparator for the measurement and comparison of standards of length occupies a room in the basement of the building.

The photographic room is on the fourth floor; adjoining this is a large room especially arranged for spectrum analysis. There are four principal laboratories. One of these, 60 feet square, is devoted to elementary laboratory instruction. The laboratories for instruction in static and steady current electricity and in optics are on the second and third floors. The laboratory for work in magnetism and alternating currents is in the basement. A machine room is supplied with power from the city circuit and contains a milling machine, a large machine lathe, a smaller lathe, and other mechanical appliances for the construction of apparatus. Power can also be obtained from a twenty-five-horse-power engine which is placed in a house outside the Laboratory.

Much space is devoted to a physical cabinet. Here is a frictional electric machine, ordered for the College by Benjamin Franklin, a large reflecting telescope, an astronomical quadrant and other apparatus used by John Winthrop, Hollis Professor of Mathematics and Natural Philosophy from 1738 to 1779, and other pieces of apparatus which possess an historical interest.

The most prominent feature, however, of the Jefferson Physical Laboratory is not its collection of apparatus, but its arrangement of space for scientific investigation, and its plant for the construction of new apparatus to meet the demands of the future.

The Hemenway Gymnasium, built and equipped in 1878, was given by Augustus Hemenway, of Boston, of the Class of 1875. When, on account of the increased number of students in the University, the Gymnasium failed to meet completely the needs of the students, Mr. Hemenway, in 1895, made an extensive addition to the building, affording an increased floor area of 15,000 square feet. The main hall on the first floor is equipped with light and heavy gymnastic apparatus and modern developing appliances. A gallery surrounding the hall is fitted as a running track. On the second floor is the trophy room, containing souvenirs of athletic contests, a rowing room, the Director's office, and rooms for measuring, photographing, etc. The staircase hall is hung with portraits of athletes. In the basement are bowling alleys, hand-ball courts, and rooms for fencing, sparring, wrestling, and other exercises. In the east end of the building are the locker, the bathing, and the dressing rooms, accommodating 2500 students. In the rear is

an area covered with asphalt. This is enclosed by a high fence, and affords facilities for practising hand-ball, and other gymnastic games and exercises.

Conant Hall, built from funds bequeathed by Edwin Conant, of Worcester, of the Class of 1829, was erected in 1893-95 at a cost of about \$109,000. It contains 45 suites of rooms, and three single rooms. Mr. Conant also gave \$5,000 to the Divinity School and \$27,500 to the College Library.

Perkins Hall, the gift of Mrs. Catharine P. Perkins, of Boston, was built in 1893-95 at a cost of about \$160,000. It was erected in memory of three members of her husband's family, the Reverend Daniel Perkins, Richard Perkins, and William Foster Perkins, all alumni of the University. It contains 88 suites of rooms.

THE UNIVERSITY MUSEUM.*

This establishment is commonly called the Agassiz Museum, and the latter title is hardly more than a just recognition of the share which Louis and Alexander Agassiz, father and son, have had in its upbuilding. Louis Agassiz, when he was first appointed to a professorship in the University in 1847, began a collection of zoölogical specimens and soon made clear the need of a building for housing it. In 1858 Francis Calley Gray, of Boston, of the Class of 1809, left \$50,000 for a

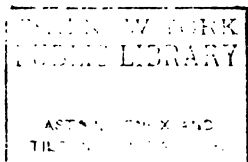
* Proposed changes in the Museum may soon render the diagrams accompanying this sketch somewhat incorrect; but a special guide to the building is to be prepared.



CONANT HALL



PERKINS HALL



Museum of Zoölogy, giving his nephew, William Gray, the option of bestowing the fund upon Harvard University. He gave it to the University, and it was supplemented by \$100,000 voted by the Legislature, and by \$71,000 subscribed by private citizens of Boston. Mr. Henry Greenough, of Cambridge, and Mr. George Snell, of Boston, volunteered to make a plan for the museum building, and produced a design large enough to meet all demands for space for a long time. There was to be a main building parallel to Oxford Street with two wings extending towards Divinity Avenue. At first only about two-fifths of one of the wings was erected; this was completed in 1860. Professor Agassiz himself dug the first spadeful of earth. In 1868 the Massachusetts Legislature voted \$25,000 a year for three years, on condition that as much more should be raised from private sources. This was done, and in 1871-72 the capacity of the building was more than doubled. In 1877 the north wing was completed; and in 1880-82 the north-west corner of the main building, which now contains the library and the laboratories, was erected by Alexander Agassiz, of the Class of 1855, in memory of his father. A slate tablet in the hall bears this inscription:—

LYDOVICI •

AGASSIZ •

PATRI • FILIUS •

ALEXANDER •

MD • CCC • LXXX •

Louis Agassiz was curator of the Museum from 1862 until his death in 1873. Alexander Agassiz entered the service of the Museum in 1860 and was curator from 1874

until he resigned in 1898, never accepting any salary while he held that office. Besides his devoted service, he has given vast sums of money to the institution.

In 1888-89 the middle portion of the main building, devoted to the Departments of Botany and Mineralogy, was added, so that now only the southwestern corner and the western portion of the wing of which the Peabody Museum is a part are needed to complete the structure originally planned by Messrs. Greenough and Snell.

The Museum is largely dependent for support on the Memorial Fund, part of which was raised by school children throughout the country, whose interest in natural history had been awakened by the labors of Agassiz.

The University Museum comprehends the Museum of Comparative Zoölogy, the Botanical Museum, the Mineralogical Museum, the Natural History Laboratories, and the Peabody Museum of American Archaeology and Ethnology.

The Museum of Comparative Zoölogy occupies the north wing of the quadrangle (60 x 200 feet). The Natural History Laboratories are in the northwest corner piece (95 x 75), and in the adjoining sections of the central part.

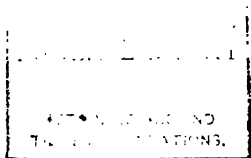
The Botanical Museum occupies the central section together with one-third of the southern section.

The Mineralogical Museum occupies a part of the southern section of the Oxford Street side of the building.

The library of the Museum, which contains more than 32,000 volumes, is on the second floor. It is intended for the use of instructors and students in the Department of Natural History. The reading room is open from 9 A.M. till 1 P.M. and from 2 P.M. till 5 P.M.



THE UNIVERSITY MUSEUM



The southwest corner will contain large lecture rooms and laboratories for the Department of Natural History, and its exhibition rooms will connect the Oxford Street side of the Museum with the Peabody Museum, which, when completed, will form the south wing of the University Museum building. The Semitic Museum is for the present housed in the Peabody Museum.

The entrances to the Museum of Comparative Zoölogy and the Peabody Museum are from Divinity Avenue. The Natural History Laboratories and the Botanical and Mineralogical Museums are entered from Oxford Street.

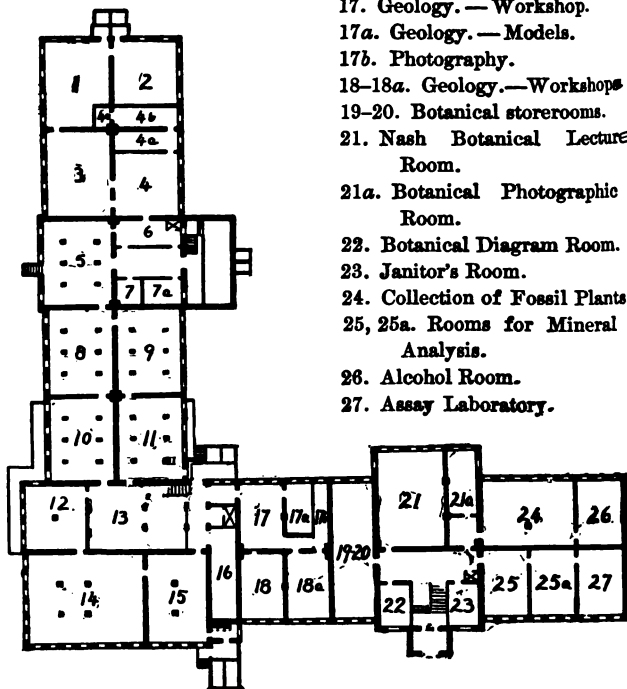
The location of the various collections of the Museum, of the laboratories, a brief description of which is appended, and of the rooms of officers and instructors is indicated on the diagrams of the various floors which will be found in the succeeding pages. Heavy-faced type indicates that the room or the collection is open to the inspection of the public. The numbers on the diagrams are arbitrary and do not correspond with the numbers on the various rooms. Reference to the diagrams will, however, show the relative positions of the rooms.

In general the Museums are open as follows : —

The Museum of Comparative Zoölogy and the Botanical Museum are open every week-day from 9 A.M. until 5 P.M., and on Sunday from 1 P.M. till 5 P.M.

The exhibition room of the Mineralogical Museum is open Wednesday and Sunday from 1 P.M. till 5 P.M., and Saturday from 9 A.M. until 5 P.M.

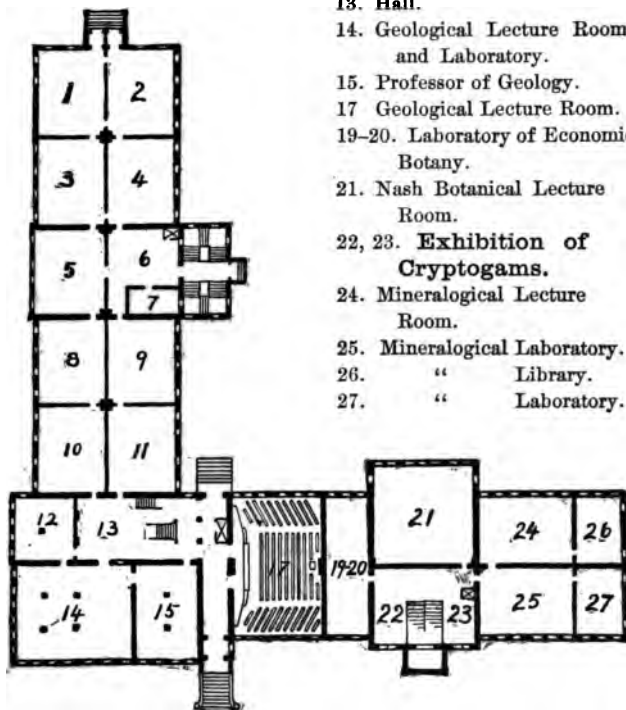
1. Alcoholic Mammals, Birds, and Mollusca. — Storage.
2. Alcoholic Crustacea. — Storage.
3. Alcoholic Fishes. — Storage.
4. Alcoholic Radiates. — Storage.
- 4a-4c. Alcoholic Worms. — Storage.
5. Alcoholic Fishes. — Storage.
6. Alcohol room.
7. Storage.
- 7a. Glassware. — Storage.
8. Alcoholic Fishes. — Storage.
9. Alcoholic Reptiles and Amphibia. — Storage.
10. Storage.
11. Fishes, Reptiles, Amphibia. Assistants
12. Workshop. — Janitor.
13. Boilers.
14. Aquarium.
15. Vivarium.
16. Coal.
17. Geology. — Workshop.
- 17a. Geology. — Models.
- 17b. Photography.
- 18-18a. Geology. — Workshops —
- 19-20. Botanical storerooms.
21. Nash Botanical Lecture Room.
- 21a. Botanical Photographic Room.
22. Botanical Diagram Room.
23. Janitor's Room.
24. Collection of Fossil Plants.
- 25, 25a. Rooms for Mineral Analysis.
26. Alcohol Room.
27. Assay Laboratory.



BASEMENT.

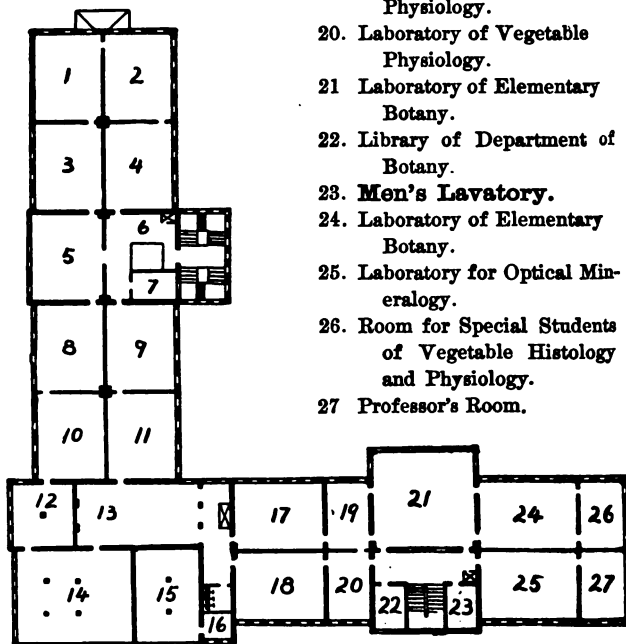
- 1 and 3. Tertiary Collections.
 2. Cretaceous and Jurassic Collections.
 4. Paleozoic Collections.
 5. Synoptic Collections.

6. Hall.
 7. Office.
 8-11. Fossil Invertebrates.—
 Storage. Assistant.
 12. Geological Lecture Room.
 13. Hall.
 14. Geological Lecture Room
 and Laboratory.
 15. Professor of Geology.
 17. Geological Lecture Room.
 19-20. Laboratory of Economic
 Botany.
 21. Nash Botanical Lecture
 Room.
 22, 23. Exhibition of
 Cryptogams.
 24. Mineralogical Lecture
 Room.
 25. Mineralogical Laboratory.
 26. " Library.
 27. " Laboratory.



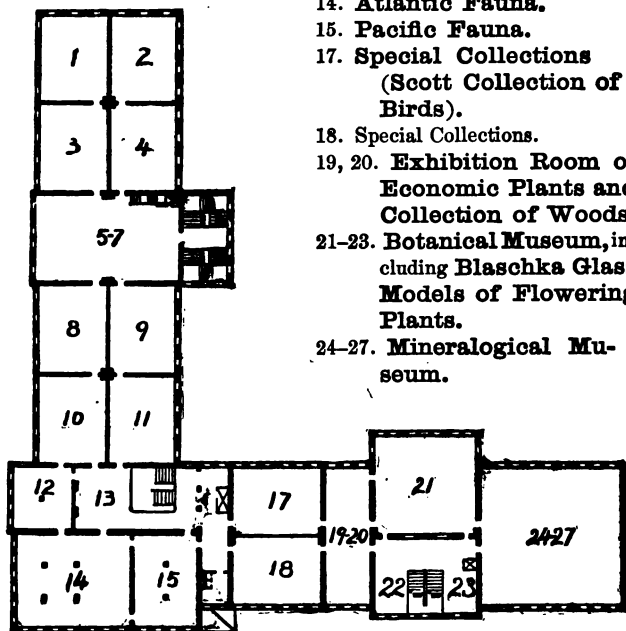
FIRST FLOOR.

- 1-4. Entomology. Assistant.
 5. **Special Collections.**
 6. Hall.
 7. Office.
 8-12. Library.
 13. Hall.



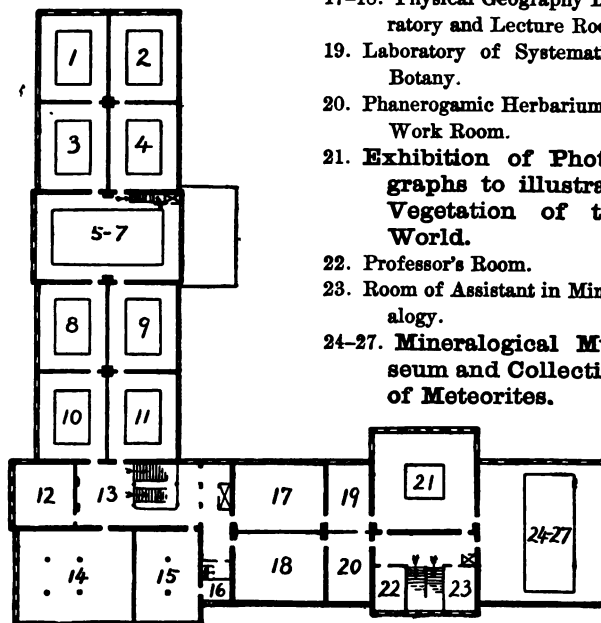
SECOND FLOOR.

1. **Fishes.**—Systematic Collection.
2. **Mollusca.**—Systematic Collection.
3. **Birds.**—Systematic Collection.
4. **Radiates.**—Systematic Collection.
- 5-7. **Mammalia.**—Systematic Collection.
8. **South American Fauna.**
9. **North American Fauna.**
10. **Indo-Asiatic Fauna.**
11. **African Fauna.**
12. **Europo-Siberian Fauna.**
13. Hall.
14. **Atlantic Fauna.**
15. **Pacific Fauna.**
17. **Special Collections**
(Scott Collection of Birds).
18. Special Collections.
- 19, 20. **Exhibition Room of Economic Plants and Collection of Woods.**
- 21-23. **Botanical Museum,** including Blaschka Glass Models of Flowering Plants.
- 24-27. **Mineralogical Museum.**



THIRD FLOOR.

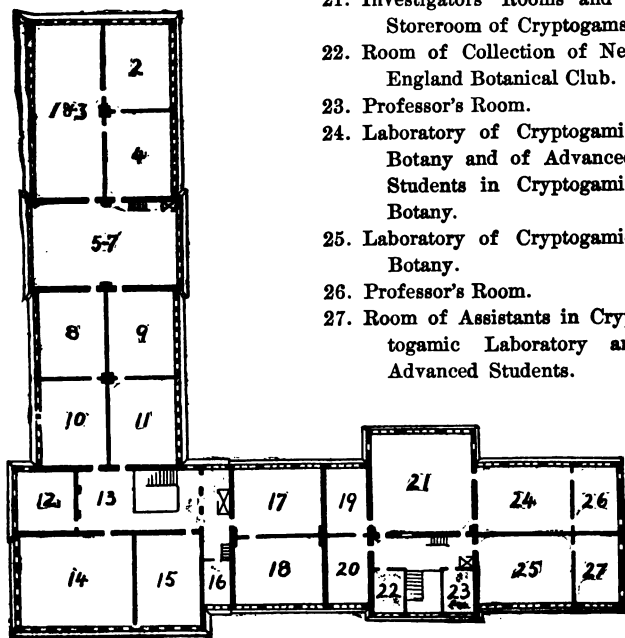
1. **Crustacea, Insects and Worms.** — Systematic Collections.
2. **Mollusca.** — Systematic Collections.
3. **Reptiles and Amphibia.** — Systematic Collections.
4. **Echinoderms and Coelenterates.** — Systematic Collections.
- 5-7. **Reptiles.** — Systematic Collections.
8. **Australian, New Guinea and New Zealand Fauna.**
9. **North American Fauna.**
10. **Indo-Asiatic Fauna.**
11. **African and Madagascarian Fauna.**
12. Zoölogical Laboratory.
13. Hall.
14. Zoölogical Laboratory and Lecture Room.
15. Zoölogical Laboratory.
16. Professor's Room.
- 17-18. Physical Geography Laboratory and Lecture Room.
19. Laboratory of Systematic Botany.
20. Phanerogamic Herbarium Work Room.
21. **Exhibition of Photographs to illustrate Vegetation of the World.**
22. Professor's Room.
23. Room of Assistant in Mineralogy.
- 24-27. **Mineralogical Museum and Collection of Meteorites.**



FOURTH FLOOR.

- 1 and 3. Fossil Vertebrates. — Mammals, Birds, Reptiles and Amphibia.
 2. Fossil Vertebrates.—Assistant in Vertebrate Paleontology.
 4. Fossil Vertebrates. — Fishes.
 5-7. Mammals and Birds.—Storage.
 8-10. Mammal Skeletons. — Storage.
 9-11. Mammal and Bird Skins. — Storage.

12. Reptiles, Amphibia and Fishes. — Storage.
 13. Hall.
 14. Zoölogical Lecture Room and Laboratory.
 15. Radiates.—Storage. Assistant.
 16. Zoölogical Laboratory.
 17-18. Mollusca and Crustacea. — Storage. Assistant.
 19. Work Room of Assistant in Cryptogamic Herbarium.
 20. Cryptogamic Herbarium.
 21. Investigators' Rooms and Storeroom of Cryptogams.
 22. Room of Collection of New England Botanical Club.
 23. Professor's Room.
 24. Laboratory of Cryptogamic Botany and of Advanced Students in Cryptogamic Botany.
 25. Laboratory of Cryptogamic Botany.
 26. Professor's Room.
 27. Room of Assistants in Cryptogamic Laboratory and Advanced Students.



FIFTH FLOOR.

The Laboratory of Geology is on the first floor of the Museum. Here are collections of rocks and specimens illustrating dynamic geology, and additional appliances for teaching in the form of maps and models. The most noteworthy objects are the model of Etna by Deckert, after Baron von Waltershausen's map of that volcano, a model of the Dents du Midi, Tour Sallières, and Mont Ruan, Canton Valais, Switzerland, geologically colored after directions by Heim and Früh, and a case of the type specimens described in the writings of officers and students of the Department of Geology.

The Laboratory of Experimental Geology occupies two rooms in the basement of the Museum. Most of the apparatus now in stock is the product of experimental research by advanced students. Apparatus is provided to imitate the deformation of the stratified rocks, the action of springs and geysers, the deposition of deltas, the formation of ripplemark, the crystallization of volcanic rocks, the motion of ice, intrusion of volcanic lavas, and erosion of the structures resulting from deformation or intrusion. The large compression chest of oak, with opposed thrust pistons, indices, and a movable bottom, is used for deforming under pressure wax models cast to imitate various possible conditions of stratification. The gas blast furnace is used for synthetic experiments, and is provided with an automatic self-extinguishing appliance for safety against accidents by fire. Projection lanterns, with devices for vertical as well as horizontal projection, are used in combination with glass tanks of different shapes, to show the action of currents in transporting and depositing sediment.

Mineralogical Museum and Laboratories of Mineralogy and Petrography. — The Mineralogical section of the University Museum, built in 1891 with a fund of \$50,000 raised by subscription, occupies the southern end of the Museum. The exhibition rooms, which are open Wednesday and Sunday, 1 to 5 P.M., and Saturday, 9 A.M. to 5 P.M., occupy the whole of the third and fourth floors; the laboratories occupy the first floor and the west half of the basement and second floors.

History of the Mineralogical Collection. — In 1793 the foundation of the present collection was laid by the gift from Dr. Lettsom, a London physician, of "a very valuable and extensive collection of minerals," to which he subsequently made additions. The Corporation provided a cabinet and appointed Dr. Benjamin Waterhouse keeper of the collection. In 1795 M. Mozard, consul in Boston of the French Republic, acting under a resolution of the committee of public safety of the National Convention of France, presented two hundred specimens "as samples of the riches of the French soil," and solicited an interchange of specimens between the University and the "agency of the mines of the Republic."

No important additions were made until 1820, when Dr. Andrew Ritchie purchased and presented the collection of C. A. Blöde, a mineralogist and chemist of Dresden, to which were added some thousand specimens purchased in 1824 by a subscription from several Boston gentlemen, and the collection was then arranged by Dr. J. W. Webster and exhibited in the second story of Harvard Hall, where it remained for thirty-three years. It increased slowly, and about 1840 contained 26,000 specimens, including rocks and other miscellaneous

material. It owes its present value, both in quality and size, to the late Josiah P. Cooke, Erving Professor of Chemistry and Mineralogy from 1850 to 1894, a marble medallion of whom is placed in the Museum. Professor Cooke for nearly half a century gave his affectionate care to the collection. Starting with what was worth preserving of the old collection, he gradually acquired new or better material by purchase, donations, or exchange, while several large single additions were made from time to time. On the completion of Boylston Hall in 1858 the mineral cabinet was placed there and it remained there until the erection of the present mineralogical museum.

The collections open to the public are situated on the main floor and gallery. Here in the flat cases the systematic collection of minerals is arranged in the numerical order of the cases according to Dana's System of Mineralogy (6th Ed.), while large plans, hung on both floors, give the contents of each case. The larger specimens are placed in the wall-cases.

Only a few features of the systematic collection can be mentioned, such as the gold and silver case, the crystallized orpiment and other sulphides, and in the adjacent wall-cases the superb colored fluorites, stibnites, sulphur, etc. Many fine specimens of alpine minerals (from the Liebener collection) will be found among the silicates and elsewhere, such as adularia, epidotes, titanite, apatite. The crystallized calcites from Lake Superior are noteworthy, and the great crystals and groups of quartz and its varieties in the wall-cases. Along the west wall a case contains a collection of natural crystals to illustrate crystallography. In the gallery the first rows of flat

cases seen on entering contain a synoptic collection illustrating the general properties of minerals, including optical properties, cleavage, genesis, etc. The adjacent wall-cases contain large specimens of the systematic collection, including the sulphates and hydrous silicates. The remaining flat cases contain the *Bigelow Collection of Agates* (about 450 specimens, mostly cut and polished, including thirty large thin sections) collected by Dr. Henry J. Bigelow and Dr. W. S. Bigelow, and illustrating the internal structure and process of growth; and the meteorites, which are arranged as far as possible in chronological order by date of fall and represent 255 separate falls. The cases against the south wall contain large specimens of the carbonates and sulphates, especially calcite and gypsum. Along the west edge of the gallery two cases contain the Hamlin collection of tourmalines, the largest in existence, from the famous locality at Mt. Mica, Paris, Maine, and a collection of gem minerals, including the well-known yellow diamond octahedron (85½ carats), precious opals, a large aquamarine and yellow beryl, tourmalines (many cut and mounted), a large hiddenite crystal, topaz, etc. The total number of mineral specimens in the exhibition rooms, exclusive of the meteorites, is about ten thousand, while those worth enumerating in the teaching and other collections bring the total up to twenty-three thousand.

The Laboratories of Mineralogy and Petrography include, in the basement, a chemical laboratory for mineral analysis and workshop for preparing thin sections of rocks and minerals. The first floor contains the lecture room; the laboratory for determinative mineralogy; one smaller room used as the department library, with the

principal periodicals, and another used for Radcliffe students in mineralogy. Many thousand specimens of rocks with thin sections are kept on this floor. The next floor has the advanced laboratory, equipped with goniometers and optical apparatus.

The Laboratory of Palaeontology contains the collections, diagrams, and a few of the more important reference books required by students. The collection used in teaching general palaeontology is arranged systematically, and the collection used in teaching historical geology is arranged stratigraphically. They are contained in trays in table or wall-cases. The whole is freely accessible to students. Besides collections in the laboratory, students can consult the fossils on exhibition in the Museum, where they are arranged either in the systematic series or in rooms especially devoted to palaeontology.

The Laboratories of Geography, on the fourth floor of the University Museum, are devoted to the needs of the various classes in physical geography and meteorology, with special reference to laboratory exercises. The equipment of the laboratories has been planned with a view to furnishing material for individual study in geography, comparable to that afforded in zoölogy and botany in the other laboratories of the Museum. It includes a variety of maps, charts, models, diagrams, photographs, and lantern slides. Special mention may be made of the collection of large-scale grouped map-sheets, illustrating districts of peculiar interest in this country and abroad. These are supplemented by a collection of the topographical maps of the United States governmental surveys and of nearly all the European surveys, in the

College Library. The collection of models includes four of type forms by Heim, Pomba's Italy on a true curved surface, the Upper Moselle by the Geographical Service of the French Army, Southern New England by Howell, the Gulf of Mexico by the United States Hydrographic Office, as well as a series known as the "Harvard Geographical Models," designed with special reference to systematic instruction in secondary schools.

The material for instruction in meteorology and climatology includes a full set of weather maps from the United States Signal Service and Weather Bureau, pilot charts of the North Atlantic and North Pacific Oceans from the United States Hydrographic Office, as well as a large number of meteorological charts and diagrams from different sources, and a number of official British, German, and French publications. The Laboratory Library contains about 500 volumes. There is also an extensive collection of climatological reports from all parts of the world in the library of the Astronomical Observatory.

Laboratories of Zoölogy.—The laboratories and lecture rooms of the Department of Zoölogy are in the northwest corner of the Museum of Comparative Zoölogy, and may be reached from the steps in the northwest corner of the Museum quadrangle, off Divinity Avenue, or from the north entrance to the Museum on Oxford Street. The present quarters were first occupied in 1885. On the fifth floor is a lecture room which is also used for elementary laboratory exercises. The walls are decorated with busts and portraits of distinguished zoölogists. On this floor there is also a small laboratory, furnished with modern apparatus and a reference library, for the use of students in Radcliffe College. On the fourth floor

are three laboratories, two of which are also used as lecture rooms, and the private room of the Hersey Professor of Anatomy. In the corner room the courses on the morphology of invertebrates and on the comparative anatomy of vertebrates are given. Here are lodged the osteological and other anatomical preparations for use in lectures on vertebrates, a large proportion of the 1700 diagrams and a portion of the microscopes and the reference book belonging to the department. The Zoölogical Club usually meets in this room. The adjacent room (2) is used by students in courses on microscopical anatomy and technique and on embryology. In cases in this room is stored much of the apparatus, such as microscopes, microtomes incubators, wax plate and modelling apparatus, wax models (the work of students), projection apparatus cameras, etc. This room, as well as most of the other laboratories, is provided with a water bath for imbedding in paraffin.

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The building, 100 feet long and 5 stories high, is one half of the contemplated structure which will form the south wing of the University Museum. The entrance is on Divinity Avenue.

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The objects already acquired are originals and reproductions. Of the former may be mentioned, from Babylon and Assyria, stone seal cylinders, and inscriptions on stone and on clay; from Phoenicia, glass vases, dishes, and bowls found in the tombs; from Palestine, the Merrill collection of birds, animals, plants, seeds, glass, coins, geological specimens, and numerous articles illustrating modern peasant and Bedouin life; from Egypt, a collection of mortuary Moslem inscriptions in the Cufic character, some of them about 1000 years old; from various Semitic lands, many manuscripts, Arabic, Hebrew, and Aramaic.

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For inspection the garden may be conveniently divided into the area below the terrace and that on the upper level. Below the terrace the natural orders of flowering plants and the genera of ferns and their allies are arranged

in formal beds, which are so disposed as to exhibit many of the affinities of the families.

In various places below the terrace are special beds devoted to groups of plants of particular interest. Among these are plants mentioned by Shakespeare and by Virgil. One long bed contains a large number of the species described by Parkinson as cultivated for decorative purposes at the beginning of the seventeenth century; these may fairly be said to represent the old-fashioned plants grown in "pleasure gardens" at the time the University was founded. Two groups which possess more than ordinary attractions for the casual visitor, the Australasian species and the desert plants, are near the Linnaean Street border.

On the upper level are the large plots assigned to select North American species. Near these are the cultivated forms of the rarer vegetables grown for the study of variation.

The greenhouses are of the common composite type. Beginning on the left and passing towards the east are successively the succulents, the Australian, the Mexican and fern houses, the palm house and its attached hot house, filled with exotics demanding great heat. Behind this range is a long range largely devoted to economic plants and to plants under the hands of experimenters. This range has a laboratory at its extreme western end.

The Botanical Laboratories of the University are distributed as follows:—At the Botanic Garden are the Gray Herbarium and the Botanical Library, and the Laboratory of Vegetable Physiology. In the University Museum are the Laboratories of Cryptogamic, Phanerogamic, and Economic Botany.

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The Laboratory of Vegetable Physiology occupies the brick building extending eastward from the Herbarium. The building also contains a lecture room with a seating capacity of 100. This laboratory has recently been supplemented by a larger laboratory on the plateau in the rear.

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The Astronomical Observatory, situated between Concord Avenue and Garden Street, Bond Street and Madison Street, Cambridge, opposite the Botanic Garden, was established in 1843. The annual income, used exclusively for research, is about \$50,000, and is mainly derived from a permanent endowment of \$830,000. Twenty-one men and nineteen women are employed. The investigations so far completed fill nearly 40 quarto volumes of annals. Discoveries made here are promptly announced by means of circulars which are issued, on an average,

The Gray Herbarium is situated in the Botanic Garden. The collection, founded and largely developed by the late Professor Asa Gray, was given by him to the University in 1864. At that time the fire-proof brick building which it now occupies was built for the Herbarium through the liberality of Nathaniel Thayer. The collection, being the result of more than sixty years of continuous and carefully directed growth, contains about 300,000 sheets of mounted specimens, representing all groups of flowering plants, ferns, and fern-allies. The fungi, lichens, algae, mosses, and hepatics have now been wholly transferred to the Cryptogamic Herbarium in the Botanical Division of the University Museum. Among the many additions which have been made to the original collection of Professor Gray since it was given to the University, the following have been the most important: the herbaria of Jacques Gay, G. Curling Joad, and John Ball, all rich in Old World types; the herbarium of Dr. George Thurber, especially rich in critically identified grasses; the general herbarium of William Boott, notable for its excellent representation of the difficult genus *Carex*; the *Compositae* from the herbarium of Dr. F. W. Klatt, specialist in that order. The Herbarium is rich in standard and rare phanerogamic *exsiccati*, in type specimens of new species and varieties, and in the possession of the greater part of the plants which have been critically examined in the preparation of the "Synoptical Flora of North America." It also contains the largest set of the valuable collections secured by Cyrus G. Pringle during more than thirteen seasons of field work in Mexico.

The Library of the Herbarium.—Together with his herbarium, Professor Gray gave to Harvard University

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once a month. This Observatory, and that at Kiel, Germany, have been selected by international agreement as centres for the prompt distribution of astronomical discoveries. Discoveries are telegraphed to one of these centres, cabled from there to the other centre, and at once transmitted to the principal observatories and newspapers of Europe and America. The Library of the Observatory contains about 9000 astronomical and meteorological volumes, and about 13,000 pamphlets.

The principal objects of interest in the main building of the Observatory are the 15-inch equatorial telescope and attached photometers, the 8-inch meridian circle, the meridian photometer, the astronomical and meteorological libraries, and the clock vaults. On the grounds are the buildings containing the 11-inch Draper telescope, with apparatus for removing and replacing the large objective prisms, the apparatus for photographing variable stars and eclipses of Jupiter's satellites, and the pole star recorder for measuring the cloudiness at night; the 15-inch Draper reflector for determining the exact position of the pole, and constants of precession, aberration, and nutation; the 8-inch Draper doublet; the 6-inch doublet for photographing large portions of the sky; the 12-inch horizontal telescope with photometer for measuring stars as faint as the thirteenth magnitude; the transit photometer for photographing, every clear night, all stars brighter than the sixth magnitude between the north pole and declination — 30° , crossing the meridian after dark. The laboratory contains various electrical and mechanical devices, a commutator for controlling various telescopes, time signals for occultations, apparatus for enlargements, for standard lights, and for converting prismatic into



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normal spectra. The brick building contains nearly 100,000 photographs, some of which were taken in Cambridge, and some at the southern station of the Observatory in Peru. Charts and spectra of all the stars from the north to the south pole are represented in these photographs for many different nights, thus furnishing a complete history of the sky during the last 25 years.

Besides the station at Cambridge, the Observatory maintains an important station near Arequipa, Peru, where the southern stars are studied in the same way that the northern stars are studied in Cambridge. Every important investigation is thus rendered complete from pole to pole. The elevation of the Arequipa Station is 7600 feet, and it was selected on account of its exceptionally favorable atmospheric conditions. A series of meteorological stations, crossing the Andes, is also maintained, the most important being that on El Misti at an elevation of 19,200 feet. The other stations are Mejia (elevation 100), La Joya (4150), Arequipa (8060), Alto de la Huesos (13,300), Mt. Blanc Station on El Misti (15,600), Cuzco (11,000), and Echarati (3000). In 1885 a meteorological observatory was established at Blue Hill, 12 miles south of Cambridge, by Abbott Lawrence Rotch, and is maintained there at his expense. To avoid duplication of work, a plan of coöperation provides for the ultimate union of the two institutions, and the observations made on Blue Hill are published in the Annals of the Harvard Observatory. Later, Blue Hill was taken by the Metropolitan Park Commissioners for a public park, but the land on which the Observatory is built has been leased for 99 years to the President and

Fellows of Harvard College. This will enable the work of the Observatory to continue under invariable conditions of exposure. The first detailed measures of cloud heights and velocities made in this country were obtained at Blue Hill in 1890. For the exploration of the upper air, kites of various designs have been employed since 1894; in this way self-recording instruments have been carried to heights exceeding two miles.

THE UNIVERSITY LIBRARY.

History.—The nucleus of the College Library was the little collection of 260 volumes bequeathed by John Harvard in 1638. The Puritan scholar's library was naturally strongest in the theological and polemical works of the day, but it had a good number of classics, Aesop, Cicero, Epictetus, Juvenal, Horace, Isocrates, Lucan, Pliny, Plutarch, Plautus, Terence, and others, and some modern works of literature and history, such as Bacon's "Advancement" Essays, Chapman's Homer, Quarles's Poems, Camden's Remains. Of all these, however, there now remains but one volume, Downname's Christian Warfare; the rest were destroyed in the fire of 1764.

The history of the library from that day to this is a record of generous gifts, great and small, from lovers of learning in this country and in England. Harvard's bequest stirred the magistrates of the Colony to contribute books to the value of £200. Peter Bulkley, the minister settled in Concord, early gave 37 volumes; Governor Winthrop gave 40 volumes; Sir Kenelm Digby, in 1658, Catholic and Royalist though he was, sent over 29

volumes, probably out of friendship for Winthrop. During the first eighteen years of the College £150 was received from "divers gentlemen and merchants in England." The Reverend Ezekiel Rogers of Rowley, dying in 1661, left all his Latin books and some English ones to the College. In 1675 Dr. John Lightfoot, an English divine, eminent for his Rabbinical learning, bequeathed his collection of Oriental literature; and in 1678, Theophilus Gale, philologist, philosopher, and theologian, by the bequest of his library, more than doubled the collections already brought together. In 1682 Sergeant Maynard sent eight chests of books valued at £400. Beginning in 1719 Thomas Hollis, his two brothers John and Nathaniel, the son and grandson of Nathaniel, both named Thomas, and Thomas Brand Hollis, whom the last Thomas Hollis made his heir, in succession devoted to the College an unremitting interest and generosity, which showed itself in the establishment of professorships and scholarships, in constant gifts of books for the library and of philosophical apparatus for scientific work, and ended only with the death of the last named in 1804. The elder Hollis, a strict Baptist but liberal minded, was pleased with the "free and catholic spirit of the Seminary" and during the last ten years of his life was constant in its service and constantly stirring the interest and appealing to the generosity of others. At the same time he did not hesitate to criticise the management of the library. He writes: "You want seats to sit and read, and chains to your valuable books like our Bodleian Library, or Zion College, in London. . . . You let your books be taken at pleasure, to men's houses, and many are lost; your (boyish) students take them to their chambers, and tear

out pictures and maps to adorn their walls. Such things are not good." He also criticised the President and Fellows for preferring to have Bayle's Dictionary and other works in English rather than in French: "Our students, in London, who sincerely endeavor after knowledge, easily attain to read French," he writes. The last Thomas Hollis showed his interest in the College by donations of books before the fire of 1764, and after the fire immediately subscribed £200 for the purchase of books; furthermore, in the course of the next six years, he sent hither 41 cases of books, and at his death, in 1774, left a bequest of £500.

When Harvard Hall was burned in 1764, the library was destroyed. This collection, amounting to about 5000 volumes, was by far the most valuable in the country, and its loss was regarded as a public calamity. But so great was the general sense, both here and in England, of the importance of replacing it, so strenuous were the efforts of the Committees appointed by the Corporation and the Overseers, and so lively the interest of others on all sides, that the library soon surpassed its former size, and by 1790 it had increased to about 12,000 volumes. The long roll of donors for 1764 is printed in Quincy's History (ii. 485). Besides the gifts of Thomas Hollis, there were gifts from Governor Bernard (10 guineas and more than 300 volumes), from John Hancock (£554), from the province of New Hampshire (£300), from the Archbishops of Canterbury and York, from George Whitefield, who also by his influence procured large numbers of books from others in England, and from the various societies for propagating the Gospel and promoting Christian knowledge.

In June, 1775, when Cambridge was occupied by the Continental troops the library was removed to Andover, and in November of the same year a part of it was taken to Concord whither the College had been transferred. The students and the faculty returned to Cambridge in June, 1776, but it was not till May, 1778, that the books were restored to Harvard Hall. Here the library remained till the erection of Gore Hall in 1838, to which the President and Fellows devoted a part of the bequest received from Governor Christopher Gore in 1829. It was supposed that this building would serve the needs of the library for the remainder of the century; but in 1877 enlargement was necessary, and the new east wing was built at an expense of \$90,000. Twenty years later the collection had again outgrown its quarters and the reading room was no longer sufficient for the greatly increased number of students that used it. The President and Fellows met the immediate need by remodelling old Gore Hall. In the lower half of the building a three-story stack, estimated to hold over 200,000 volumes, in place of the 80,000 shelved there before, was built; the upper half was made into a reading room with seats for 218 readers. This room is regarded simply as a temporary expedient; when a new reading room can be built this will be converted into a stack like the floors below it.*

* For references to the printed and manuscript sources for the history of the College Library see "The Librarians of Harvard College" by A. C. Potter and C. K. Bolton, published as No. 52 of the Bibliographical Contributions of the Library. The list of John Harvard's books and of other early gifts is printed in Mr. Andrew McF. Davis's "Few notes concerning the records of Harvard College," *Bibl. Contrib.* No. 27.

Present Administration. — United in administration with the College Library in Gore Hall, and together with it forming the University Library, are 11 departmental libraries and 23 smaller class room and laboratory libraries. The extent of the several collections in October, 1898, was as follows: —

Gore Hall (the College Library)	365,800
Lawrence Scientific School	5,100
Bussey Institution (Jamaica Plain)	3,700
Phillips Library (Observatory)	9,000
Herbarium Library (Botanic Garden)	7,400
Law School	44,400
Divinity School	28,700
Medical School (Boston)	2,200
Museum of Comparative Zoölogy	32,000
Peabody Museum	2,000
Arnold Arboretum	6,100
Seven laboratory and sixteen class-room libraries	18,300
	<hr/> 524,700

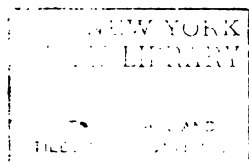
From 15,000 to 18,000 volumes are ordinarily added to the whole collection by gift and purchase each year.

The annual income of the College Library for the purchase of books is about \$16,000; the expenses of administration are about \$43,000.

The College Library in Gore Hall is open, during term time, every week-day (except holidays) from 9 A.M. to 10 P.M., and on Sundays from 1 to 5.30 P.M. During the summer vacation the Library closes at 5.30 P.M. (at 1 o'clock on Saturdays) and is not open on Sundays. The College Library is for the use of the whole University, and books may be borrowed by students (three volumes at a time), and by instructors and other officers. All other persons are free to consult books in the library,



GORE HALL (THE COLLEGE LIBRARY)



and under certain conditions receive permission to borrow. Professors from other colleges are always welcome. Books are also lent to other libraries when they can be spared without injury to work going on in Cambridge.

Officers of the University have direct access to the shelves in all parts of the library, and students engaged in advanced work are allowed access to those parts of the collection with which they are occupied. All students have the direct use of about 19,000 volumes in the reading room and the adjoining rooms.

The Books of the Library.—No complete statement of the strength of the library in different departments is given here: mention is made of the chief special fields in which the library is strong as a result of notable gifts or collections received.

The collection relating to American history, biography, genealogy, and geography numbers about 28,000 volumes, of which nearly 18,000 relate to the United States. The basis of the collection was the libraries formed by Professor Ebeling and David B. Warden, the former the gift of Colonel Israel Thorndike, of Boston, in 1818, and the latter presented by Samuel Atkins Eliot, of the Class of 1817, in 1823. (Nar. and Crit. Hist. America, vol. i. p. iii.) Both collections are rich in early publications, and, although no attempt is made to buy such of the very rare and costly books as are lacking, pains are taken constantly to strengthen the library in this department.

The collection of books and tracts illustrating the rise and growth of American slavery numbers 990 volumes, as bound, much the larger part being volumes made up of many pamphlets bound together. The collection is largely the result of the assiduity of Charles Sumner, of

the Class of 1830, and of Thomas Wentworth Higginson, of the Class of 1841.

In 1894 the private library of Francis Parkman, of the Class of 1844, was received by bequest; this includes about 2500 volumes, 2000 pamphlets, and 100 maps. That portion of them which relates to Mr. Parkman's special studies—early American explorations, Colonial history, American Indians, and Canadian history—numbering 1564 volumes, has been kept together as a memorial collection.

The collection of United States Congressional documents numbers about 3500 volumes. Many of the earlier and rarer volumes were received with the Ebeling library.

The family of the poet Longfellow, Smith Professor of the French and Spanish Languages and Literatures and Professor of Belles Lettres, 1836–54, have given to the library from time to time volumes of American poetry, most of them presentation copies, amounting altogether to nearly 700 volumes.

The collection of books by and relating to Dante contains over 2000 volumes. In 1884 Professor Charles Eliot Norton, of the Class of 1846, gave to the College Library the larger part of his valuable collection on Dante, and in 1896 the collection of Dante literature (175 volumes) of George Ticknor, Smith Professor, 1817–35, was given to the library by his heirs. The Dante Society for many years has made an annual appropriation for the purchase of books in this department, and the library is under constant obligation to foreign writers, especially Italians, who have presented many of their works.

Section of books by and upon Milton, numbering as, is largely made up of one formed by George

The library received under the will of Thomas Carlyle his collection of books on Cromwell and Frederick the Great, numbering 422 volumes.

The collection of folk lore and mediaeval romances, numbering about 7300 volumes, is supposed to be the largest in existence. Professor Francis James Child, of the Class of 1846, who is chiefly responsible for its collection, based upon the material here brought together his English and Scottish Popular Ballads. This collection includes a large number of Chap-books, also manuscript copies of all the important collections of popular ballads in the British Museum that have not been printed, and a copy of the large unpublished collection of French popular ballads (with music) which was made by a commission appointed by Napoleon III.

The Slavic collection, which has been increased through the generosity of Archibald Carey Coolidge, of the Class of 1887, who has given over 2000 volumes, now comprises 3500 volumes relating to the history and literature of the Slavic nations. With the above is included a notable collection on Nihilism (45 volumes and 116 pamphlets) given by Ivan Panin.

The collection of Sanskrit literature includes about 450 printed texts, about 500 manuscripts, the gift of Fitzedward Hall, of the Class of 1846, and about 500 other manuscripts purchased for the library in India by Professor Lanman. Many of the printed books were given by Henry Ware Wales, of the Class of 1838; and to increase the collection, his brother Mr. George Washington Wales, gave for many years \$200 a year.

The collection of music, including both printed books relating to music and musical scores, numbers about 4400 volumes.

The library is well supplied, particularly with the older books, in all departments of theology and Biblical criticism. Ezra Abbot, Bussey Professor of New Testament Criticism and Interpretation, 1872-84, bequeathed his library to the Divinity School. The collection of printed sermons probably numbers about 10,000.

In 1888 John Harvey Treat, of the Class of 1862, presented his collection of works on ritualism and doctrinal theology, numbering 587 titles.

Jared Sparks, of the Class of 1815, President of the University from 1849 till 1853, left his collection of manuscripts — mostly copies, but including some originals, such as the papers of Governor Bernard — to the library, and his family has since placed in the library his private manuscripts, correspondence, diaries, etc.

An extensive collection of Judæo-German books from northern Europe was presented to the library in 1898 by Mr. Leo Wiener, Instructor in Slavic languages; another collection of books in the same dialect printed in America was given by Messrs. Morris and James Loeb of the classes of 1883 and 1888. The two collections together number about 425 volumes and 1700 pamphlets.

The most considerable collection of original manuscripts relating to American history possessed by the library is the papers of Arthur Lee, which were left to the library in 1827. Two other parts of the same collection were given at the same time to the American Philosophical Society in Philadelphia and to the Library of the University of Virginia.

Charles Sumner bequeathed his whole library to Harvard in 1874. The collection was a general one, but it embraces many books of curious and bibliographical

interest, and interesting autographs. Sumner's correspondence, mounted in 171 volumes, has also come to the library since the death of Mr. Edward L. Pierce, his biographer.

In 1892 Mr. John Bartlett, of Cambridge, gave to the library his collection of books on angling, fishes, and fish culture, numbering 1014 volumes and 269 pamphlets. Mr. Bartlett has also given his collection of Proverbs and Emblems, comprising about 250 volumes.

The library has some works in American aboriginal linguistics. Chief among them is the Abenaki Dictionary of Sebastian Rasle, which was printed under the editing of John Pickering, in 1833, by the American Academy of Arts and Sciences. The linguistic contributions to the study of the Delaware and other aboriginal languages of the Indians living in the present Middle States, by David Zeisberger, a Moravian missionary, were given to the library in 1845.

The collection of loose maps, numbering about 17,500 sheets, is the largest in the country; the basis of the collection is that formed by the late Professor Ebeling of Germany, which came to the library with his collection of Americana in 1818. It has been added to from time to time, particularly so as to complete the cartographical publications of the United States government and the topographical surveys of the principal European countries. The collection of bound maps and atlases numbers about 800 volumes. It includes facsimile collections, and the printed editions of the early geographers. Printed books which are useful in facilitating the use of the collection are provided, and there is a manuscript subject catalogue of the maps.

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Catalogues of many of the special collections mentioned above have been printed in the series of Bibliographical Contributions issued by the Library from time to time.

The University Archives are kept in the Library, the Librarian being also keeper of the University Records. Supplementary to the Archives is a collection of *Harvardiana*, numbering nearly 3000 volumes and pamphlets.

THE DIVINITY SCHOOL.

That a leading purpose of the founders of Harvard College was to provide for the churches a learned ministry may be seen from the inscription carved upon a tablet at the entrance to the College Yard.

Instruction in theology has been given at Harvard College from the time of its foundation. The first professorship instituted in the University was the Hollis Professorship of Divinity, established in 1721. The differentiation of the Divinity School from the College was very gradual. Its Faculty was formally organized in 1819. A separate list of its students—previously not distinguished from other “resident graduates”—first appears in the Catalogue for 1819–20. The organization of the three oldest professional departments of the University, under the titles Theological School, Medical School, and Law School, is first indicated in the Catalogue for 1827–28.

The constitution of the Divinity School prescribes that “every encouragement be given to the serious, impartial, and unbiassed investigation of Christian truth, and that no assent to the peculiarities of any denomination of



DIVINITY HALL



THE DIVINITY LIBRARY

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Christians shall be required either of the instructors or students."

The administration of the School is now carefully conformed to this principle. Various denominations are represented in its Faculty and among its students. The aim of its management is to maintain a school in which all subjects connected with theology shall be studied in a spirit as free as that in which philosophy, history, and classical literature are studied in colleges. At the same time, special attention is given to preparation for the practical work of the ministry.

Divinity Hall, erected under the auspices of the Society for Promoting Theological Education in Harvard University, which secured contributions amounting to about \$20,000, was completed in 1826. It contains 37 rooms, a reading room, and a chapel. The library formerly housed there has been removed to the new Divinity Library.

The Library Building of the Divinity School was completed in 1887 at a cost of about \$40,000. It contains the library, of about 30,000 volumes; a reading room; a faculty room, which serves as the office of the Dean of the School; a room used for the general purposes of the students; and three lecture rooms.

THE LAW SCHOOL.

Austin Hall. — Dane Hall, in the southwest corner of the College Yard, erected in 1832 and enlarged in 1845, was occupied by the Law School until 1883, when Austin Hall, in Holmes Place, the present home of the School, was finished. For this building the University is indebted to the liberality of Edward Austin, and the architectural skill of Henry Hobson Richardson.

On the first floor are three lecture rooms, a reading room, and three professors' rooms. The mezzanine story contains three more professors' rooms. On the second floor are the administrative offices, the library stack with a capacity of 65,000 volumes, and the large reading hall or workshop of the students. The library contains 44,000 volumes.

The Law School possesses a unique collection of portraits of eminent judges and lawyers. English Chancery judges are to be seen in the north lecture room, and English Common Law judges in the west lecture room. The portraits of American lawyers and judges are in the reading hall and in the east lecture room.

THE MEDICAL SCHOOL.

In the year 1782 Dr. John Warren, a brother of Joseph Warren who fell at Bunker Hill, drew up a scheme for a medical school in connection with the University. The Corporation approved it, and in 1783 lectures were given in Cambridge by Dr. Warren, Dr. Aaron Dexter, and Dr. Benjamin Waterhouse. In 1810 the lectures were trans-



AUSTIN HALL (THE LAW SCHOOL)

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ferred to Boston, and in 1816 a small building on **Mason Street**, erected by means of a grant from the General Court, was completed, and was called the **Massachusetts Medical College**. In 1846 that building was sold and the one now occupied by the **Dental School** was erected for the medical faculty.

The present **Medical School Building** is situated at the corner of **Boylston and Exeter Streets**, Boston. It is a fireproof structure of brick and terra cotta, built in 1883 by the generous subscriptions of "friends of medical education."

The building is four stories high, with two half stories between the second and third, and the third and fourth floors. The entrance, from **Boylston Street**, is to a large, central hall, lighted from the roof. From this hall rises an iron stairway to the galleries leading to the lecture rooms and the laboratories. On the right of the entrance are the faculty room and the office of the Dean and the Secretary: on the left are the rooms of the Janitor. In the rear of the faculty room, extending along the **Exeter Street** side of the building, are the laboratories for bacteriology, for materia medica, pharmacology, and experimental therapeutics, and also for hygiene. In a large hall on the left, and also in the rear of the entrance hall are arranged lockers for the students' use; and there is also on this floor a room for a branch of the **Harvard Coöperative Society**. A smaller iron stairway and the elevator shaft are placed in a fire-proof structure behind the central hall and the galleries.

The second story is devoted to the Departments of Physiology and Chemistry. On the right is the main chemical laboratory and the private work rooms of the Professors

of Chemistry and their assistants. On the left are the physiological laboratory and the large lecture room used by the two departments. In the mezzanine story above the second floor are the private laboratories of the Professor of Physiology, facilities for special research, and smaller laboratories for clinical microscopy and hematology.

The Warren Anatomical Museum is placed in a room occupying two thirds of the front of the third story. It contains about 10,000 specimens, fully illustrating normal and pathological anatomy and materia medica. Numerous dissections, corrosive preparations, frozen sections, and large models of the bones, made under Professor Dwight's direction, are found in the normal division. In addition, Professor Dwight has prepared a collection of bones illustrating the variation in individuals. Diseased bones and organs which show changes in shape, size, or structure are preserved in alcohol or dried; those in which the color is of especial importance are prepared by the new method of Kaiserling. There are also many skulls of different races, and rare and unique specimens. Among the latter is the celebrated "crow-bar skull." This came from a man who, while tamping a blast, received the accidental discharge of an iron, which passed completely through his head, destroying a portion of the left frontal lobe of the brain. He recovered, and lived for 13 years with no impairment of his faculties. The room is open during the day to students and visitors, and every facility is offered to the visitor for the study of the specimens both in and out of the cases.

The Exeter Street side of the third story is occupied by two large lecture rooms; on the opposite side is the



THE MEDICAL SCHOOL



amphitheatre used for the lectures in anatomy and surgery. Beneath the rising tiers of seats are the private rooms of the Professor of Surgery and the Assistant Professor of Anatomy; in the rear of this floor are the rooms of the Demonstrator of Anatomy and his assistants.

The mezzanine story above the third floor contains only the private room of the Professor of Anatomy; the remaining space is devoted to the large lecture rooms of the third story.

The front of the fourth story is devoted to the Department of Histology and Embryology; the remaining room is used by the Professors of Anatomy and of Clinical Surgery. The dissecting room occupies the Exeter Street side. In the rear of the dissecting room is a small amphitheatre for lectures, and the macerating room and the other workrooms of the Department of Anatomy. The large anatomical amphitheatre rises through this story to the roof of the building. The basement contains, in addition to the heating and ventilating plant, ample provisions for cold storage.

The building as originally planned proved to be inadequate for the increasing needs of the School, and in 1890 the generosity of Henry Francis Sears, an alumnus of the College and the School, enabled the President and Fellows to build an addition to the main building, providing for the special needs of the Department of Pathology. The basement is fitted up for the care of animals and for the storage of material. The first story is assigned to the Professor of Bacteriology, and is used chiefly for graduate and special instruction. The second and third stories are devoted to pathology and pathological history.

THE DENTAL SCHOOL.

The Harvard Dental School was established by vote of the President and Fellows of Harvard College, July 17, 1867. In 1865 Dr. Nathan Cooley Keep had, in his annual address before the Massachusetts Dental Society, of which he was then President, suggested the need of a Dental School in connection with Harvard University; and thus the movement which resulted in the establishment of the School took its beginning. The first session of the School opened on the first Wednesday in November, 1867, and continued until the following March. The first examination of candidates for the degree of the School was held March 6, 1869.

The School building, formerly used by the Medical School, is situated on North Grove Street, Boston. The building is three stories in height. The first floor contains the chemical laboratory, provided with 140 desks, the Janitor's rooms, and the store room. The second floor is used for the mechanical laboratory, the waiting room, the anaesthesia and the surgical rooms, lecture rooms, and the office. The large lecture room has a seating capacity of 300. On the third floor are two operating infirmaries, B and C, an office, and a surgical room. Each of the infirmaries has 27 operating chairs; the surgical room is provided with a surgical chair, cases, and instruments. The fourth floor contains a surgical clinic room.

The museum of the School is situated on the third floor and contains, in properly arranged cabinets, specimens of comparative anatomy, materia medica, mechanical pieces, dental and surgical instruments, pathology,

orthodontia carving, etc. Included in the specimens of comparative anatomy are 24 Hawaiian skulls, more than 1500 years old, found in the caves of the Hawaiian Islands, which show many of the modern diseases known to dentistry. The total number of specimens in the museum is more than 3000. A library is being collected.

THE SCHOOL OF VETERINARY MEDICINE.

The School of Veterinary Medicine was opened in the year 1882-83. It is situated at and near the corner of Village and Lucas Streets, Boston, and occupies for purposes of instruction, and for hospital purposes two brick buildings. In a third building a Free Clinic is maintained.

The objects of the Corporation and the Overseers in organizing this School were to provide a thorough training for veterinary practitioners, and to lay the foundations of an advanced school of comparative medicine. From the beginning the School has been fostered and aided by the Faculty of Medicine.

The Lucas Street Building contains a dissecting room, extending upward through two complete stories of the building in order to secure good ventilation and shadowless light; a lecture room; a reading room, open to members of the various classes; a museum; bed rooms for house-surgeons; etc.

The Village Street Hospital was established in 1883, a year after the foundation of the School, for the treatment and observation of sick animals; its wards

and cases are used by students precisely as hospitals for men are used by students in medicine. It contains an operating room and wards. Separate wards are provided for dogs.


A Forge has been established, to which students have access at all times, and in which it is possible for them to obtain instruction in horse-shoeing, if they so desire, although a practical training in this is not considered a necessary part of the education of a veterinary physician. The theory of shoeing is, however, thoroughly taught.

The Free Clinic, or Dispensary for Animals, is located at No. 52 Piedmont Street, which is near the corner of Columbus Avenue and Ferdinand Street, Boston. It was first opened in the fall of 1896. During the year 1897-98, 3,926 cases were treated.

Besides operating as a useful charity, the Clinic is a valuable addition to the teaching resources of the School. The cases coming in are given, in regular order, to the senior students who, under the immediate supervision of an instructor, take full charge and do whatever is necessary, precisely as they would in private practice. The institution is largely supported by public annual subscription.

THE BUSSEY INSTITUTION.

The School of Agriculture and Horticulture, known as the Bussey Institution, was established in execution of trusts created by the will of Benjamin Bussey, bearing date July 30, 1835, and was opened in 1871-72. It is situated at the outer edge of Jamaica Plain, close to the Forest Hills stations of the Electric Railway and the New York, New Haven, and Hartford Railroad.





THE SCHOOL BUILDING OF THE BUSSEY INSTITUTION



THE MUSEUM OF THE ARNOLD ARBORETUM



The large stone building of the Institution contains lecture rooms, recitation rooms, and laboratories for instruction in agriculture and horticulture, and in natural history and chemistry as applied to those arts. It contains, also, a library of nearly 4000 volumes relating chiefly to agriculture and horticulture. The greenhouses afford opportunity for teaching the manual operations of horticulture and for supplying plants and flowers for use in teaching the botanical classes in this and other departments of the University. The nurseries and park-like plantations of the Arnold Arboretum are adjacent to the buildings of the School and serve to supplement its teachings.

Connected with the School is a farm, on which forage is grown and animals are kept.

The students of the Bussey Institution include persons intending to become farmers, gardeners, foresters, florists, landscape gardeners, managers or stewards of large estates or of parks, towns, highways, or public institutions, Overseers of farms, and owners of rural property.

THE ARNOLD ARBORETUM.

The Arnold Arboretum, a living museum of trees and shrubs, is managed by a director who is also Professor of Arboriculture. It occupies 220 acres of land in Jamaica Plain, near the Forest Hills station of the New York, New Haven, and Hartford Railroad, with two entrances from the Parkway of Boston, which forms its eastern boundary, and others from Centre Street, Walter Street, Fairview Street, and South Street, Jamaica Plain. It was established in 1872 by an arrangement between

dent and Fellows and the trustees under the will of James Arnold, of New Bedford, the President and Fellows furnishing about 120 acres of land which formed part of the so-called Bussey Farm bequeathed to them by the late Benjamin Bussey, and Mr. Arnold's trustees an endowment of \$100,000, which has since been increased by accumulated income and other gifts to \$170,000. By another arrangement, made subsequently with the City of Boston, the Arboretum is open to the public every day in the year from sunrise to sunset, and the city, through its Park Commissioners, has built roads and walks in the Arboretum and supplies the police force necessary for its protection. Additional land was also acquired by the city and added to the Arboretum, which in 1894 was further enlarged by the President and Fellows with 75 acres of ground belonging to the Bussey Farm.

The Arboretum is now traversed by between three and four miles of park roads, along which all the trees hardy in the climate of eastern Massachusetts are arranged in great open groups of genera, American species being followed first by European and then by Asiatic species. These tree groups are bordered by shrubs, as far as possible of the same related genera, and in a special collection, occupying several acres near the entrance from the Forest Hills station, all the shrubs hardy in this climate are arranged in parallel beds, according to their botanical relationships. The Arboretum also contains large areas of woodland, — in the management of which the object sought is the production of the greatest natural beauty, — and many fine native trees. From its two high hills views of the distant country and of the City of Boston and its harbor can be obtained.

The Arboretum is equipped with a herbarium of ligneous plants preserved in a fireproof building; this contains very full sets of specimens of all North American trees and is rich in the types of the woody vegetation of the whole northern hemisphere; the dendrological library of nearly 7000 volumes and several thousand pamphlets is believed to be unrivalled in its completeness. Special students in dendrology are received at the Arboretum, and every spring and autumn popular lectures are given, largely to teachers; but it is principally managed as a station for scientific research into the character, the distribution, and the uses of hardy trees and shrubs, and of the best methods for their cultivation.

A BRIEF ACCOUNT OF STUDENT LIFE AT HARVARD.

IN the preceding pages the grounds and buildings devoted to the educational aims of the University have been described. It remains to say somewhat of the places associated with the daily life of the University population, particularly of the students.

So rapid has been the recent growth of the student body that the University no longer attempts to feed and house the whole number of those whom it instructs. Memorial and Randall halls, conducted by student associations, supply with food more than half of those who live in Cambridge. The others patronize public cafés and restaurants and private boarding-houses, or avail themselves of the accommodations which many of the clubs afford. Now and then one also finds a poor student preparing his food over a spirit lamp in his room. At the private boarding houses, as in Memorial Hall, club tables are commonly formed.

DORMITORIES.

The University rarely fails to let all the rooms in those dormitories in Cambridge which it owns, and which have been described; but an increasingly large percentage of the students, either from necessity or from preference, live elsewhere. Many find quarters in private houses, and some, whose homes are in Cambridge and the neighboring towns and cities, live at home; but a still larger number are housed in private dormitories. Some of these private dor-



STATUE OF JOHN HARVARD

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TILDEN FOUNDATIONS

mitories offer accommodations not substantially better or worse than the University gives in its dormitories; but in recent years very luxurious quarters for the richer students have been provided by the enterprise of capitalists. These expensive buildings are nearly all to the southward of the College Yard, on Mount Auburn Street or in its neighborhood; but Ware Hall, on Harvard Street, should be numbered among them. The newest of them have such appliances for the pleasure and comfort of their lodgers as are found in expensive bachelor apartments in New York and other cities; swimming tanks and apparatus for gymnastics are offered by some of them. The poorer students find rooms at rentals of seventy-five dollars, fifty dollars, or even less; the richer pay as much as seven hundred dollars. The rooms in the dormitories and in most of the private houses are let unfurnished, and a student may fit up his quarters economically or luxuriously, according to his means. Ordinarily, a student rooming alone has a study and a small bedroom or alcove, and two students rooming together have a study in common and two bedrooms or alcoves.

Doubtless the chief reason why the newer private dormitories have arisen between the Yard and the Charles River is that this region has come to be the centre of those activities in which the social spirit, the college loyalty, and the literary, musical, and other interests of the student body express themselves. Here are the principal club houses, most of them in easy reach of the dormitories. Along Massachusetts Avenue, facing the Yard, and in Harvard Square, southwest of the Yard, are the shops, restaurants, billiard parlors, and so forth, most frequented by the students. Across the river are the principal playgrounds, and on its banks are the boat houses.

ATHLETICS.

Of all the student activities, none attracts more attention from the general public than athletics, and those branches of athletics in which the Harvard teams engage in inter-collegiate contests have been for years the subject of much discussion. The various sports are sustained by elaborate organizations among the students, and regulated by a committee composed of officers, graduates, and undergraduates. The old Delta was for many years the principal playground; when it was chosen to be the site of Memorial Hall, Jarvis Field was secured in its stead. Jarvis and Holmes fields accommodated all the teams except the crews until 1895, when Soldier's Field, south of the Charles, became available.

SOLDIER'S FIELD.

This spacious playground, covering twenty acres, was given to the college in 1890 by Henry Lee Higginson, of the class of 1855. A shaft near the entrance is inscribed as follows:—

TO THE
HAPPY MEMORY OF
JAMES SAVAGE
CHARLES RUSSELL LOWELL
EDWARD BARRY DALTON
STEPHEN GEORGE PERKINS
JAMES JACKSON LOWELL
ROBERT GOULD SHAW
FRIENDS COMRADES KINSMEN
WHO DIED FOR THEIR COUNTRY
THIS FIELD IS DEDICATED BY
HENRY LEE HIGGINSON

THOUGH LOVE REPINE AND REASON CHAFE
 THERE CAME A VOICE WITHOUT REPLY
 'T IS MAN'S PERDITION TO BE SAFE
 WHEN FOR THE TRUTH HE OUGHT TO DIE

In 1893-4 a locker building was erected on Soldier's Field by subscriptions from the Alumni, the Cary building on Holmes Field being no longer available for the teams, on account of the distance. Opposite the locker building stands a base-ball cage, built in 1897. The same year the corporation took the Cary building for uses other than those for which it was designed, and in return contributed \$15,000 to the improvement of the new playground.

ROWING.

Doubtless the oldest of the athletic sports now flourishing at Cambridge is rowing. As early as 1844 the class of 1846 bought an eight-oared boat and named it the Oneida. Several clubs were formed, each taking the name of its boat. The clubs raced with each other and with clubs outside Harvard. In 1852 the long series of Yale-Harvard races began on a two-mile course on Lake Quinsigamond, the Oneida of Harvard winning by four lengths over the Shawmut of Yale. A second race was won from Yale in 1855, and the building of a boat house the next year was one of the signs of the growing popularity of the sport. It is said that before this the cellar of Appleton Chapel had housed a racing shell. In 1859 Harvard beat Yale and Brown on Lake Quinsigamond. During the Civil War rowing languished until 1864, when the races with Yale were resumed. In 1870 Harvard had a record against her chief rival of seven victories out of nine contests, and in 1869 a four-oared Harvard crew had rowed a very creditable race on the Thames against Oxford, the Englishmen winning by six seconds.

From 1871 to 1876 Harvard rowed in college regattas, first at Springfield and then at Saratoga. But in 1876 a dual league with Yale was formed, and this arrangement lasted until 1895. From 1879 until 1895 all the races were rowed at New London. Owing to a rupture of athletic relations with Yale, Harvard rowed in 1896 at Poughkeepsie and was beaten by Cornell. In 1897 and 1898 Cornell beat both Yale and Harvard. The dual league with Yale has recently been revived. Yale at present leads Harvard in the number of victories.

The crew or "eight" is housed in the 'Varsity boat house. A captain is elected at the end of each season by the men who have rowed in the principal race, — usually the race with Yale. The captain, after consultation with graduates interested in rowing, selects a coach, who is ordinarily a Harvard graduate; but the crews of 1897 and 1898 were coached by Mr. R. C. Lehmann, a graduate of Cambridge, England, and a famous amateur expert in rowing.

Besides the 'Varsity, there are a number of other crews at Harvard. In 1879 class crews were formed, and the class races, rowed every spring on the Charles, have served to develop oarsmen for the 'Varsity. In 1890 Mr. George Walker Weld, of the class of 1860, built and equipped a boat house for the especial benefit of students not rowing on the 'Varsity or class crews. The Weld Boat Club has possession of the building. In 1898-99 another club was formed and named the Newell, in honor of the late Marshall Newell, of the class of 1894, famous in his day as a football player and oarsman. It is the present plan to choose the class crews from among the men who distinguish themselves in the club races, and finally to select the 'Varsity oarsmen from the class crews. The Freshman

crew, however, is reserved intact for its annual race with the Yale Freshmen.

BASE-BALL.

Base-ball has flourished at Harvard ever since 1862, when the base-ball club of the class of 1866 was formed. It practiced first on the Common, near the Washington Elm, and later on the Delta. Yale had no club at that time, but in June, 1863, a game was played with the Brown Sophomores at Providence, and the Harvard nine won. The first game with Yale was played in 1868. Jarvis became the playground when Memorial was built, and afterwards Holmes. In 1897 base-ball was transferred to Soldier's Field.

Several Harvard nines have attained wide distinction. From 1868 to 1878 A. McC. Bush was captain, and many famous victories were won over professional as well as amateur clubs. F. W. Thayer, '78, the inventor of the catcher's mask, was also a successful captain. In his time curve pitching began. Of late years not many successful nines have been developed; but in '93 and again in '97 Yale was defeated in the annual series. The game with Yale the day before Class Day at Cambridge is one of the great athletic events of every year. Harvard also plays with Princeton, Pennsylvania, and numerous smaller colleges.

FOOT-BALL.

Foot-ball, as played nowadays, is a comparative newcomer among college sports; but foot-ball of a different sort was played at Harvard long before the Civil War. A rough-and-tumble match between the Freshmen and the Sophomores used to be played every year on the Delta.

The Faculty put an end to the custom, but it is supposed that the "rushes" on "Bloody Monday night" — the evening of the first Monday after term begins in the autumn — are a survival of the old encounters on the Delta.

In 1873 a foot-ball association was formed, and rules limiting the number of players to fifteen on a side were adopted. The number was gradually reduced to eleven. In 1880 the Rugby rules were adopted. In 1885 the Faculty prohibited the game on account of its roughness, but next year the ban was removed. Matches with Yale began in 1870 and continued with few interruptions until 1894, when a display of brutality at Springfield caused a cessation for two years. Harvard now plays every year with Yale and Pennsylvania, besides many smaller colleges. With Princeton there have been only two matches since 1889.

Jarvis was the foot-ball field until 1895, when the sport was transferred to Soldier's Field. The annual match with Yale, played formerly at Springfield, is now played alternately at Cambridge and at New Haven. It attracts enormous crowds and is usually a most exciting spectacle. Since the game took its present form, Harvard has beaten Yale only twice — in 1890, under Captain Cumnock, '91, and in 1898, under Captain Dibblee, '99.

TRACK ATHLETICS.

The Harvard Athletic Association, founded in 1874, has in charge the track and field teams which represent the University in the annual Mott Haven games, a meeting of various colleges, and in the dual games with Yale. The running-track is on Holmes Field, but a new one is to be constructed on Soldier's Field. Harvard has a Mott

Haven cup, the trophy of eight victories, and in 1899 the first cup offered for the dual contests with Yale became Harvard's property as the result of five victories over her dearest foe.

OTHER SPORTS.

Lawn tennis is played chiefly on Jarvis Field, which was given over to the Lawn Tennis Association when the foot-ball team ceased to play there. There is a golf-club, a lacrosse club, a cricket club, a fencers' club, a shooting club; and individual students indulge in various other forms of recreation. The Hemenway Gymnasium is used rather for general athletic exercise than for the development of teams.

The student organizations devoted to other than athletic purposes are many and various. To most of them the term club may be applied; but some have not taken that form.

Perhaps the greatest practical importance should be attributed to the editorial boards of the student publications.

HARVARD JOURNALISM.

The undergraduate publications are now four in number. *The Harvard Crimson* appears daily, excepting Sundays. *The Lampoon*, the illustrated college comic paper, and *The Advocate*, the oldest periodical of the four, are fortnightlies. *The Monthly* is what its name implies.

The Harvard Lampoon, founded in 1876, had among its first editors Robert Grant, F. J. Stimson, J. T. Wheelwright, and F. G. Atwood. In 1880 it ceased to appear, and some of the men who had founded it went to New

York to write for *Life*, which was started at that time. In 1881 *The Lampoon* began to come out again as in its "Second Series," so that it is now able to boast that it is the oldest comic paper in the country and the parent of *Life*. The editors, about twenty in number, have a Sanctum in the house next the Hasty Pudding Club on Holyoke Street. The comical aspects of college life are set forth in this paper, and a mildly satirical attitude is maintained towards the governing powers.

The Harvard Crimson, the college daily, is a larger and more businesslike concern than any of the other college papers. The board of editors and the candidates, who serve a severe four months' trial, are expected to do a great deal of work during the college year. The office, 1304 Massachusetts Avenue, is large and gives working accommodations to the graduate weekly, *The Bulletin*, and to the Harvard correspondents of various newspapers. The "Sanctum," in the back of the office, is more or less sacred to the editors, and is used chiefly as a clubroom.

The Harvard Advocate is more closely associated with the undergraduate publications of the past than any other Harvard periodical now issued. It is the immediate successor of the short-lived *Collegian*, which appeared in 1866 with the motto "Dulce est periculum." The second of the three numbers of *The Collegian* contained a Socratic dialogue in which Socrates asked what the compulsory chapel services really were, considering that the minister was the only person present who was intent on his devotions. After the Faculty had suppressed the paper and threatened expulsion to any who allowed themselves such freedom again, the *Advocate* appeared under the motto "Veritas nihil veretur." In time it ventured to print the

old motto "Dulce est periculum" also. The *Advocate* at present has no sanctum or settled place of abode. The meetings of the board are usually held in the room of the secretary or president. *The Monthly* is much like *The Advocate*. Both publish stories and poems, but *The Monthly* is given also to rather serious studies in literature. For example, it published the first English translation from Ibsen, and the first bibliography of George Meredith.

Of the Harvard men who in their college days served on the editorial boards of student publications many became eminent in later life, and a few have been famous. Edward Everett and Samuel Gilman (the author of "Fair Harvard") were on the board of *The Harvard Lyceum*, which appeared in 1810 and 1811. Later, in 1830, Oliver Wendell Holmes contributed to the first *Collegian*. J. R. Lowell was an editor of *Harvardiana*, 1835-1838. Phillips Brooks, F. B. Sanborn, and J. B. Greenough were among the originators of *The Harvard Magazine*.

THE CLUBS.

An enumeration made in 1898-99 shows a total of 86 student organizations, other than athletic, to each of which the term club may be applied. Social intercourse is a feature of most of them, but in many this is subsidiary to another object.

PRACTICAL CLUBS.

There are clubs devoted to such practical work as the management of dining halls, like the Dining Association and the Foxcroft Club, or of a store, like the Coöperative Society. But of these it is not necessary to speak.

RELIGIOUS SOCIETIES.

The religious societies have been many. Those now flourishing are the Young Men's Christian Association (Protestant), which traces its origin to the Saturday Evening Society, founded in 1802; the Catholic Club, formed in 1892; the Religious Union, which admits any student interested in religious subjects without question as to his beliefs; the St. Paul's Society (Protestant Episcopal); and the Oxford Club (Methodist Episcopal). It is understood that all of these will use Phillips Brooks House in future. A number of organizations are devoted to the various forms of charitable work, to the cause of temperance, and similar objects.

POLITICAL CLUBS.

The interest of the student body in the affairs of the Republic, and in particular political movements, is frequently exhibited. In fact, none of the higher forces of University life are stronger than the simple impulse of patriotism. The presidential elections always bring into action clubs representing the two great parties; frequently the smaller parties, and factions of the greater, are also represented. Organizations like the Civil Service Reform Club aim at continuous agitation along certain lines.

SECTIONAL CLUBS.

Sectional clubs like the Southern, the Maine, and the Western New York, bring together the men whose feeling for their home associations is strong, especially those whose homes are remote from Cambridge. Similarly, the larger preparatory schools are represented by such associations as the Exeter Club, the Groton Club, the St. Marks Club, and so forth.

EDUCATIONAL CLUBS.

There are associations of students — graduates, undergraduates, and professional school men — based on serious interest in nearly every important branch of study. The Graduate Club brings together a large number of men pursuing advanced studies and doing original work in various departments, among them many representatives of other American and Canadian colleges. The law clubs are organized like courts; their members prepare briefs, argue cases, and render decisions in the most business-like way. Among the undergraduates the clubs interested in modern languages are particularly strong. The Cercle Français and the Deutscher Verein both give dramatic performances, and in recent years the Cercle has been enabled, through the generosity of Mr. James Hazen Hyde, '98, to offer the University community courses of lectures on French literature by such eminent French men of letters as M. Brunetière and M. Rod. Among the scientific students the Natural History Society — an old organization — the Chemical Club, the Botanical Club, and the like, attract many members.

The debating clubs should also be placed in this category, and they have an especial importance because of the inter-collegiate debates. Debating was a feature of many of the older societies which in the course of time have become purely social. A "Harvard Union," devoted entirely to speaking, flourished in the thirties. In 1880 it was revived, and in 1891-92 it began a series of annual debates with Yale. In 1893 the Union broke in two, and this resulted in the formation of the New Union and the Wendell Phillips Club, which became the Forum. In 1898, however, the two were united in the University Debating

Club. At present the three lower classes have debating clubs of their own. Every year Harvard debates with Yale and with Princeton. Harvard has won six of the debates with Yale and lost three. The four debates with Princeton have all been Harvard victories. None of the debating clubs has a house of its own.

MUSICAL CLUBS.

There are several organizations based on a love of music. One of them, the Pierian Sodality, founded in 1806, is probably the oldest musical society in the country. It is said that in 1832 its membership was reduced to one man who "elected himself to all the offices, attended his own rehearsals, and so carried the club through the year." At present the Pierian flourishes as a college orchestra, has a professional coach, and frequently performs in public. The Glee Club dates from 1858; the Banjo and Mandolin clubs are of later origin. These three frequently give concerts together, and they have a pleasant custom of making music in the Yard on warm evenings towards the close of term time. They used to make extensive tours through the country during the Christmas holidays, but such expeditions are now prohibited. Each of the three has its counterpart in the Freshman class.

MISCELLANEOUS CLUBS.

A set of interests, not athletic or social or literary, find expression in such organizations as the Camera Club, the Chess Club, and the Whist Club. The Camera Club has an annual exhibition, at which prizes are awarded. The Chess Club has a fine record of victories in the intercollegiate contests, and the Whist Club has beaten Yale every year since 1894, when the club was formed.

LITERARY AND SOCIAL CLUBS.

We come finally to a long list of clubs which, as a group, cannot be accurately described as either social or literary ; nor can they be accurately divided into literary and social. Nearly all of them began by being literary. The majority have ended by going over entirely to good fellowship, but even these frequently give their conviviality a traditional literary or dramatic form. Perhaps the best way to describe them as a group is to say that they are all social clubs, some of which retain literary features.

In one, however, the Phi Beta Kappa, the social side is presented chiefly to the alumni members who gather at Cambridge the day after Commencement for the annual address and poem, which are given in Sanders Theatre, and for the dinner, which is eaten in Massachusetts Hall. To the undergraduate, membership is desirable chiefly as a formal reward for academic distinction. The chapter was founded in 1779, taking its charter from the William and Mary chapter in Virginia, and was a secret society until 1831. Its catalogue shows a long roll of eminent names, and many of the Phi Beta Kappa addresses and poems have become famous ; examples are Emerson's address in 1837, Wendell Phillips's in 1881, and Oliver Wendell Holmes's poem in 1836. The speeches at the dinner in Massachusetts are never reported. The immediate members are taken from the two higher classes ; from each class twenty-five are taken entirely on the basis of scholarship, and a few others — usually five — because they have won distinction in other ways.

Other clubs which, though really social, maintain an intellectual tone, are the O. K., which dates from 1858, the Signet, which was founded in 1870 and moved into its present quarters, on Mt. Auburn Street, in 1897, and the

Amphadon, a comparative newcomer. These three choose their members from the upper classes, and are not rivals; membership in one of them does not bar one from election to the others. Also of decidedly intellectual tone is the Harvard chapter of Delta Upsilon, a much larger club than any of the three just described. It was organized in 1881, and is the strongest chapter the fraternity has. The character of its membership is indicated by the fact that nearly one third of the names on its rolls are also on the rolls of Phi Beta Kappa. Every spring it produces a play, usually selected from the works of the Elizabethan dramatists.

There is also at Harvard a chapter of Theta Delta Chi, with a club house on Ware Street and Broadway; but as a rule the Greek-letter societies at Harvard have no connection with other chapters throughout the country.

For example, the Delta Kappa Epsilon at Harvard, better known as the Dickey, is the great Sophomore secret society from whose membership the more exclusive of the Junior and Senior societies are recruited; and the Dickey is really the inner circle of a larger Sophomore society called the Institute of 1770. The Institute is the oldest of all the clubs now in existence, for its history extends back under different names to the year 1770, when the Speaking Club was founded. This was really a debating club, and we are told that its members were forbidden to speak in Latin. In 1801 the Speaking Club became the Patriotic Association, and later the Social Fraternity of 1770. In 1825 it united with two other clubs under the present name, and in 1848 the I. O. H. was also absorbed. Once a Senior society of literary proclivities holding its meetings in Massachusetts Hall, the Institute has gradually become a Sophomore society, has eliminated its literary features, and now main-

tains a club house of its own on Plympton Street, near Mt. Auburn Street. Its hundred members are chosen in groups of ten, and the first six tens are members of the Dickey also. The custom is to "take out" each ten by marching around to the tune of the "Institute March" and hauling the men out of their rooms. The Dickey is held responsible for most of the comical initiations witnessed on the streets of Cambridge and Boston, on the playgrounds between the halves of important athletic contests, and in various other places where the performances of the novitiate are sure of adequate appreciation. The Dickey has also given a number of dramatic exhibitions, usually comic operas.

Of all the larger social clubs, however, the Hasty Pudding is doubtless the best known. Indeed, it is probably the best known college club in the country. It was founded in 1795, and takes its name from the frugal fare on which its members still occasionally regale themselves. Its meetings were held for many years in the rooms of members, but in 1849 it obtained permanent quarters in Stoughton Hall, where at length a whole floor was given over to it. Here was a stage on which the dramatic performances which have brought the club its wide reputation used to be presented. They began in 1844, and were possibly suggested by the usages of other clubs, long since defunct; for we know that in the middle of the eighteenth century there were clubs that gave plays. There is a well authenticated story that John Adams, H. U. 1755, later distinguished in other rôles, once appeared as a female character in a Shakesperian play and was brought to grief by the accidental display of a thoroughly masculine pair of boots beneath the skirts with which he had thought to conceal them.

In 1876 the Pudding moved into the wooden building on Holmes Field now occupied by the Architecture Department. Its present club house, on Holyoke Street, was built in 1888. It has a theatre in the rear, and a considerable library. The plays are given first in the club house and afterwards in Boston. Nowadays, they usually take the comic opera form, the words and music being the work of members. Several of the Pudding "shows" have recommended themselves to professionals. Besides the plays, there are various peculiar usages and customs which give a quality of distinction to the good fellowship which is the club's main object and attraction. Its catalogues almost vie with those of the Phi Beta Kappa in the matter of distinguished names. Its immediate members are all Seniors and Juniors.

The Pi Eta Society was founded in 1865 by members of the class of '66 who felt that the increasing size of the college warranted the formation of a second large Senior society. The name suggests rivalry with the Pudding. The Pi Eta's first quarters were on Brighton (now Boylston) Street. In 1873 it obtained rooms in Hollis, where it first began to give dramatic entertainments. Three years later a fire caused a third removal, this time to Brattle Square. In 1894 the society took possession of its present club house on Winthrop Square; in 1897 a theatre was added. Formerly, the Pi Eta drew its members from the Everett Athenæum, a society no longer in existence, much as the Pudding draws its members from the Institute of 1770. At present, however, the Pi Eta takes in men from the three upper classes. Its plays are produced in Cambridge and Boston, and are usually the work of members.

There remain a number of small social clubs, most of them with Greek-letter names, but without affiliation with chapters in other colleges. The oldest of these small clubs, and doubtless the best known, is the Porcellian, whose club house is on Massachusetts Avenue, nearly opposite Boylston Hall. It was founded in 1791 as the Pig Club, became the Gentlemen's Society next year, and in 1794 took its present name. Its first rooms were in Stoughton; the club house was built in 1891. As a rule, the members are wealthy and socially prominent students. The club has a fine library.

The A. D., whose club house is at the corner of Mt. Auburn and Dunster streets, and the Alpha Delta Phi, whose club house is at the corner of Mt. Auburn Street and Holyoke place, both trace their origin to a society founded in 1836, and called the Alpha Delta Phi. At one time, owing to Faculty opposition to secret societies, it had to conceal its existence. It then took the name A. D. At present, however, the two clubs are entirely separate. The Zeta Psi, which has held a place in the college social system not unlike that of the Alpha Delta Phi, dates from 1847. Its club house is on Church Street. Other small clubs possessing houses of their own are the Delta Phi and the Phi Delta Psi, on Mt. Auburn Street. The number of these small and exclusive clubs, which take their members chiefly from the rolls of the Institute and the Pudding, seems to be increasing. Formerly, they attached much importance to secrecy, but the building of club houses seems to have worked a change in this respect. There is, however, — at least there is supposed to be, and at one time there certainly was, — a club at Harvard whose membership, whose proceedings, and whose very existence are shrouded in

gloomy mystery. This is the "Med. Fac.," or Medical Faculty, an organization whose earlier history is better known than its more recent. Many deeds of darkness are still attributed to it. It has conferred honorary degrees on various individuals, from the Czar of Russia to the proprietors of a patent blacking, and has given its distinguished consideration to many venerable objects in Cambridge, but its secrets remain unfathomed. The only inkling of its membership the community ever gets is the black rosette, with skull and cross-bones, worn by a few Seniors every Class Day.

A general characteristic of all these social organizations at Harvard is the self-sufficing way in which, as a rule, they avoid mere noise and publicity. In this respect they have a strong resemblance to the better sort of clubs in cities. The number of students seems to necessitate numerous clubs, and the tendency is to organize them on those lines of congeniality and common interests which determine social groupings in the great world. In the shaping of characters, and ultimately of careers, the social intercourse among students at Harvard plays a part scarcely less important than the instruction offered by the University. It breaks up the student body into various groups which maintain a certain consistency in after life.

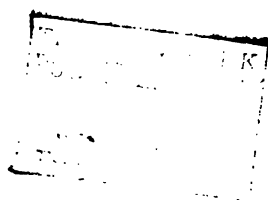
COMMENCEMENT AND CLASS DAY.

Of the student body as a whole there is little to be said. It represents all but a very few elements of American citizenship, with a considerable foreign admixture. One never sees the whole of it at once; but at the great athletic exhibitions, and on a few occasions of especial academic interest, one may get a fair idea of what the whole would be like.



"THE TREE"





The greatest occasions are Class Day and Commencement. Both have been frequently described in books, and in the main the descriptions hold good from year to year. Commencements have lasted from the beginning, with a single break of seven years, from 1774 to 1781, occasioned by the Revolutionary War. The chief features of the day are the ceremonies in Sanders Theatre, where speeches are made and degrees conferred, the great gathering of Alumni in the Yard and of particular (graduate) classes in various rooms in the older buildings, the procession in order of classes to Memorial, and the dinner there. The beginnings of Class Day are unknown. It is celebrated a week before Commencement. The Seniors, in caps and gowns, go to prayers together in Appleton Chapel, and later gather with their friends in Sanders, where an orator and an ivy orator speak, and a poet and an odist read verses. "Spreads" are given in many places. In the afternoon, until 1898, there was always "The Tree," the most peculiar of Harvard customs, whose origin, like that of Class Day, is unexplained. The tree itself stands in the quadrangle partly enclosed by Harvard, Hollis, and Holden, and it stood there more than a hundred years ago, as an old engraving shows. On countless Class Day afternoons its trunk has been circled by a band of flowers, for which thousands of seniors, attired in utterly disreputable raiment, have striven to the applause of fair spectators, whose gowns have exhibited, from year to year, the last refinements of countless fashions. But for various reasons "The Tree" was abandoned in 1898, and an entirely new set of ceremonies was performed around the statue of John Harvard at the west end of Memorial Hall. The evening of Class Day, except for the increase of the crowds, remains as it was. There is dancing in various

halls; the Yard is bedecked with Japanese lanterns and thronged with promenaders; and in the midst of all is the Glee Club's stand, whence at last the strains of "Fair Harvard" announce to the class whose name is gleaming on the front of Holworthy that its college days are numbered.

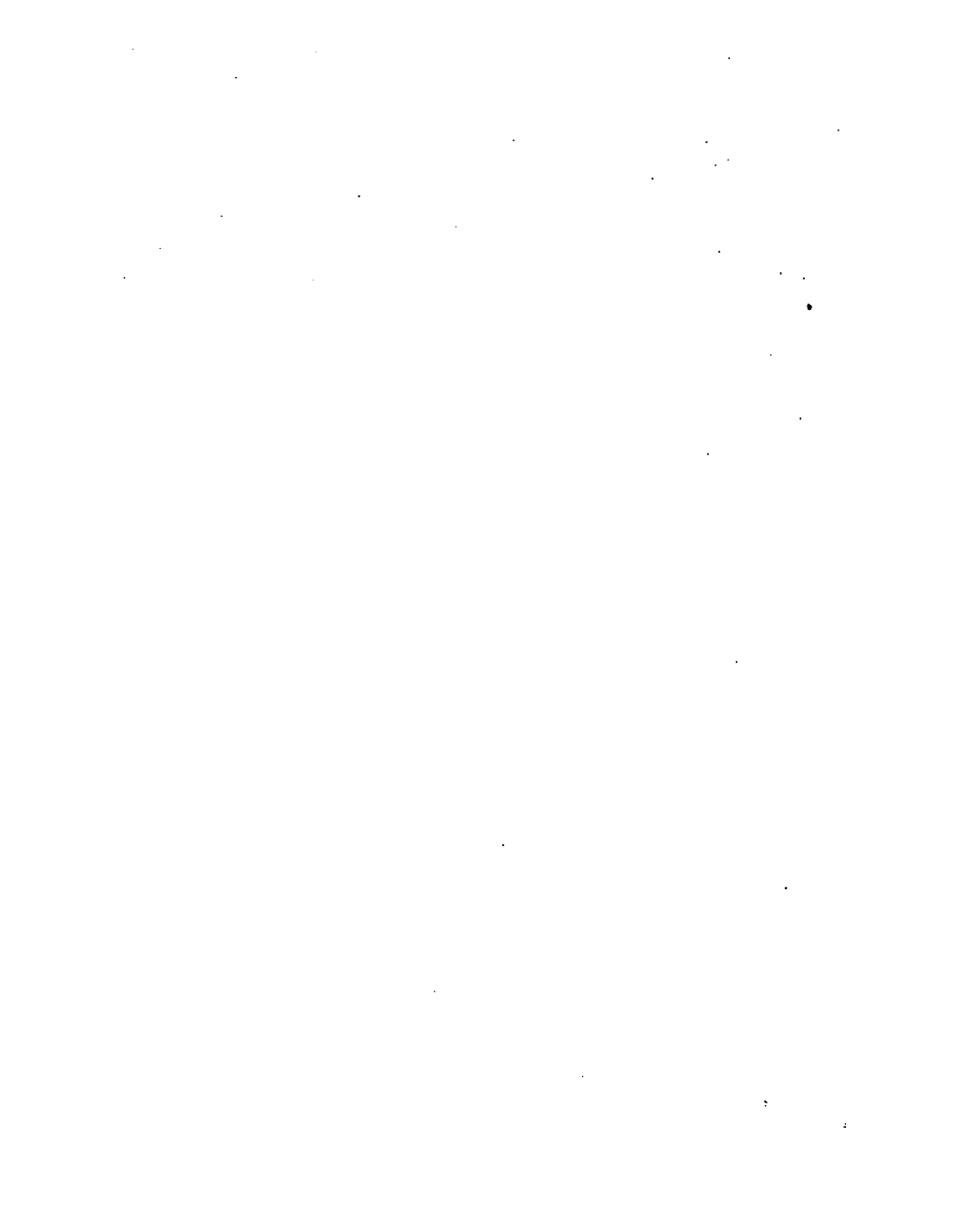
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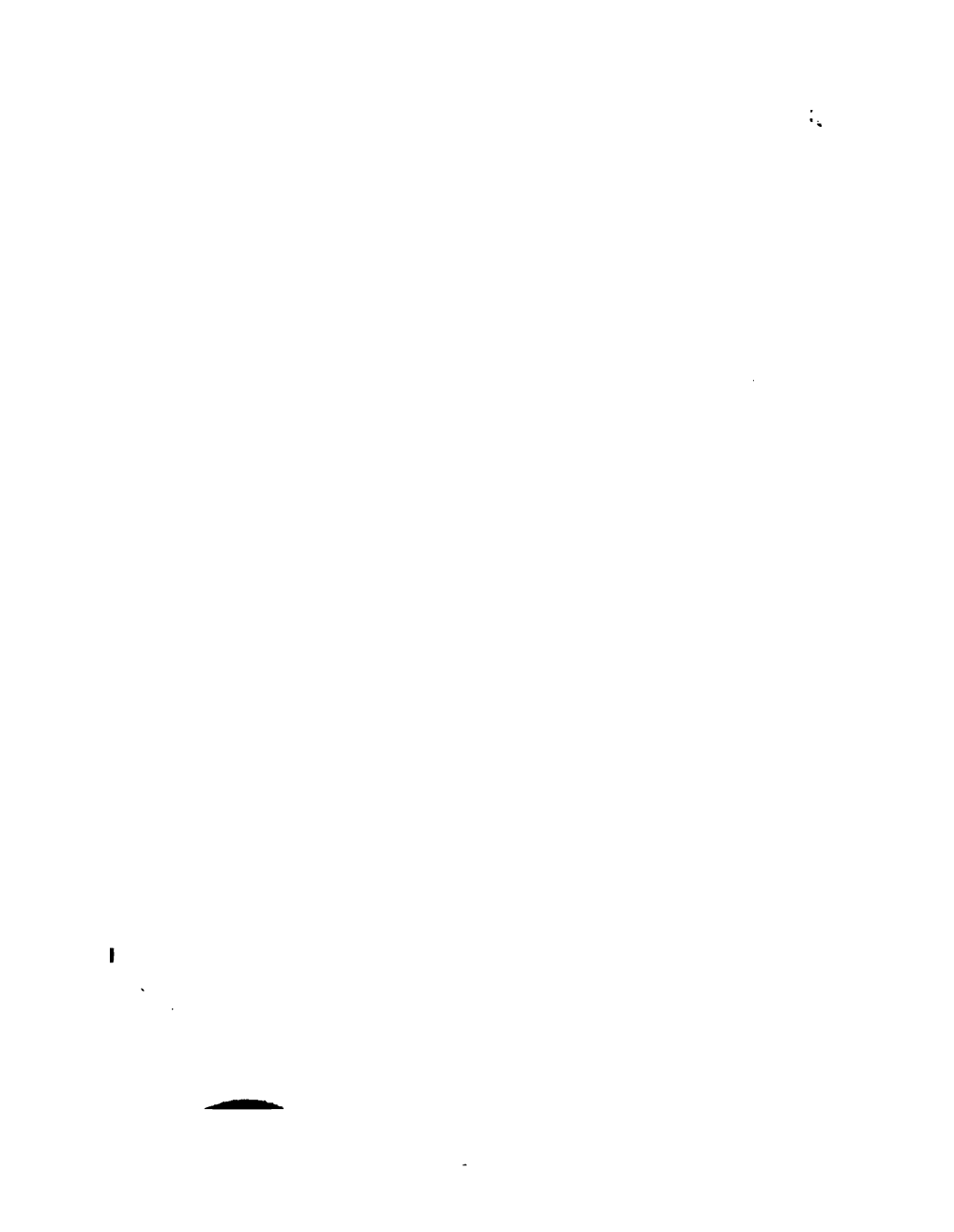
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